

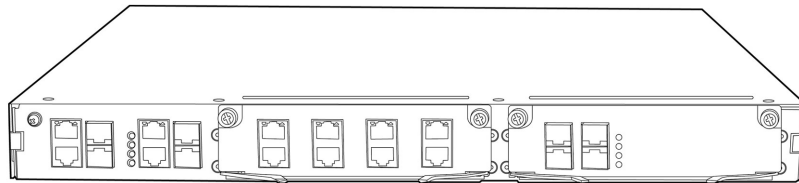
Overview

Product overview

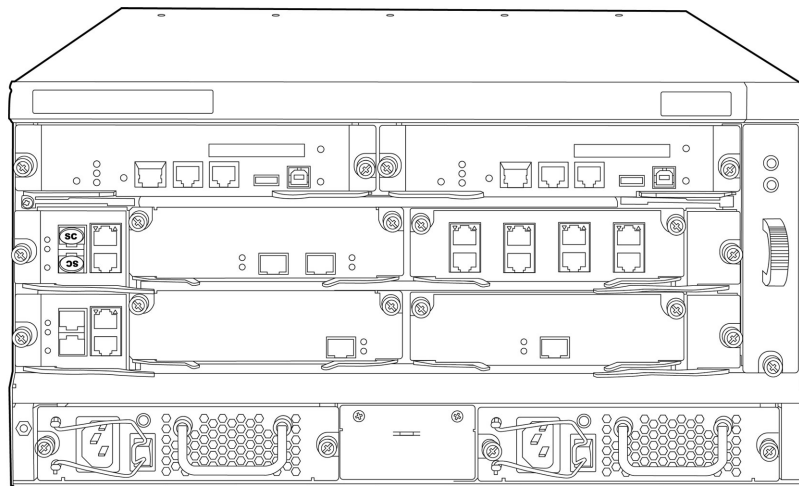
The HP 6600 Router Series is a family of high-performance WAN routers that is ideal for campus and data center WAN edge and aggregation deployments.

These routers are built with a multicore architecture offering distributed or centralized processing to help balance performance and cost. The 6600 Router Series delivers robust routing, security, full Layer 2 switching, and modular high-density WAN and LAN interface options, all integrated in a single high-performance routing platform.

In addition, the HP 6600 Router Series features robust carrier-class reliability capabilities to help reduce disruption from network or system failures.

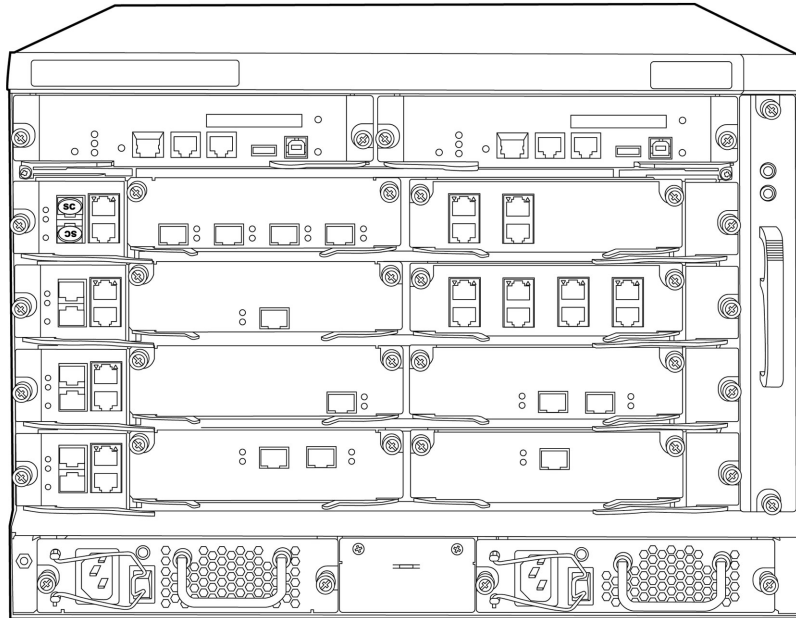


HP 6602 Router Chassis



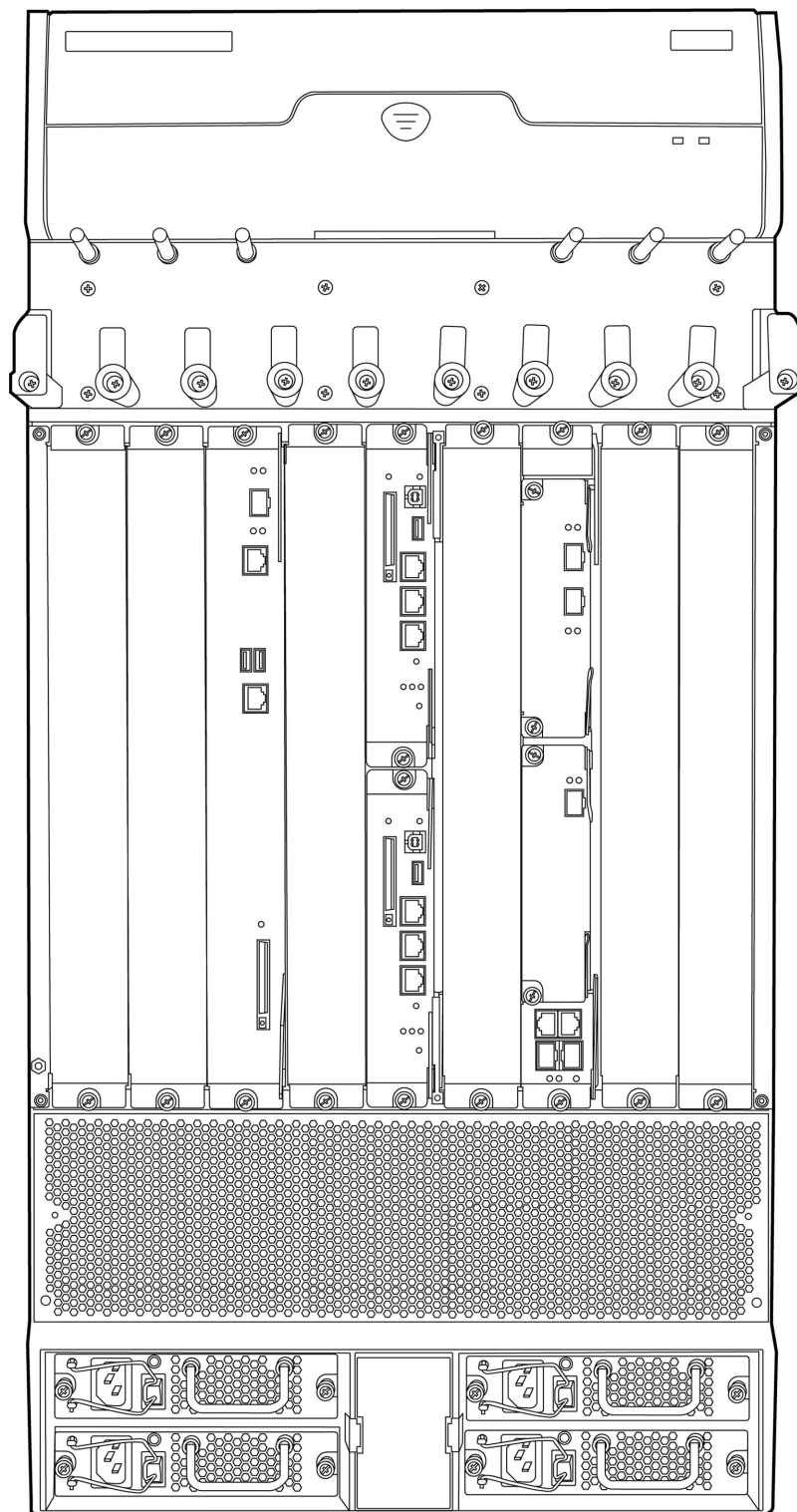
HP 6604 Router Chassis

Overview



HP 6608 Router Chassis

Overview



HP 6616 Router Chassis

Overview

Key features

- High-performance WAN routing
 - Multi-core distributed or centralized processing
 - Comprehensive routing, switching, and security
 - Embedded hardware encryption
 - Robust high availability and resiliency
-

Features and benefits

Quality of Service (QoS)

- **Traffic policing**
supports Committed Access Rate (CAR) and line rate
- **Congestion management**
supports FIFO, PQ, CQ, WFQ, CBQ, and RTPQ
- **Other QoS technologies**
supports traffic shaping, FR QoS, MPLS QoS, and MP QoS/LFI
- **Congestion avoidance**
weighted random early detection (WRED)/random early detection (RED)

Management

- **Management interface control**
provides management access through modem port and terminal interface, as well as in-band and out-of-band Ethernet ports
- **Management security:**
includes multiple administration levels, with password protection and restricted access to critical configuration commands; access control lists (ACLs) provide telnet and SNMP access; local and remote syslog capability allows logging of all access
- **SNMP v1, v2, and v3**
provides complete support of SNMP, as well as full support of industry-standard MIBs and private MIB extensions
- **Industry-standard CLI with a hierarchical structure**
reduces training needs and increases productivity in multivendor installations
- **Remote monitoring (RMON)**
uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **Debug and sampler utility**
supports ping and traceroute for both IPv4 and IPv6
- **Network Quality Analyzer (NQA)**
analyzes network performance and service quality by sending test packets, and provides network performance and service quality parameters such as jitter, TCP, or FTP connection delays and file transfer rates; allows a network manager to determine overall network performance and to diagnose and locate network congestion points or failures
- **Network Time Protocol (NTP)**
synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time
- **FTP and TFTP support**
File Transfer Protocol allows bidirectional transfers over a TCP/IP network and is used for configuration updates; Trivial FTP is a simpler method using User Datagram Protocol (UDP)
- **Loopback**
supports internal loopback testing for maintenance purposes and high availability; loopback detection protects the system from incorrect cabling or network configurations and can be enabled on a port or VLAN
- **Internet Group Management Protocol (IGMP)**

Overview

is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks

Connectivity

- **High port density**
provides up to 16 interface module slots, and high-density Ethernet interface cards; a single card can provide up to 48 GbE interfaces, which enables the routers to fully satisfy the demands of high-density Ethernet (MSTP) link distribution
- **Multiple WAN interfaces**
support Fast Ethernet/Gigabit Ethernet/10GbE ports, OC3~OC48 POS/CPOS, and ATM ports
- **Flexible port selection**
provides a combination of fiber and copper interface modules, 100/1000BASE-X auto speed selection, and 10/100/1000BASE-T auto speed detection plus auto duplex and MDI/MDI-X; speed is adaptable between 155 M POS and 622 M POS

Performance

- **Industry-leading performance**
provides up to 252 Mpps forwarding performance
- **Flexible chassis selection**
consists of 4 models: 16 HIM-slot chassis, 8 HIM-slot chassis, 4 HIM-slot chassis, and 2 HIM-slot chassis
- **Scalable system design**
backplane is designed for smooth bandwidth upgrade

Resiliency and high availability

- **Separate data and control planes**
provide greater flexibility and enable continual services
- **Hitless software upgrades**
allow patches to be installed without restarting the device, increasing network uptime and simplifying maintenance
- **Redundant design of main processing unit and power supply**
increases the overall system availability
- **Virtual Router Redundancy Protocol (VRRP)**
enables fast convergence of routes and packet forwarding when links fail, ensuring high network availability
- **IP Fast Reroute Framework (FRR)**
nodes are configured with backup ports and routes; local implementation requires no cooperation of adjacent devices, simplifying the deployment; solves the traditional convergence faults in IP forwarding; provides restoration within 50 ms, with the restoration time independent of the number of routes and fast link switchovers without route convergence
- **Graceful restart**
features are fully supported, including graceful restart for OSPF, IS-IS, Border Gateway Protocol (BGP), LDP, and RSVP; network remains stable during the active-standby switchover; after the switchover, the device quickly learns the network routes by communicating with adjacent routers; forwarding remains uninterrupted during the switchover to realize nonstop forwarding (NSF)
- **Hot-swappable modules**
facilitates the replacement of hardware interface modules without impacting the traffic flow through the system

Layer 3 services

- **Address Resolution Protocol (ARP)**
determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network

Overview

- **User Datagram Protocol (UDP) helper**
redirects UDP broadcasts to specific IP subnets to prevent server spoofing
- **Dynamic Host Configuration Protocol (DHCP)**
simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **Domain Name System (DNS)**
provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server

Layer 3 routing

- **Static IPv4 routing**
provides simple manually configured IPv4 routing
- **Routing Information Protocol**
uses a distance vector algorithm with UDP packets for route determination; supports RIPv1 and RIPv2 routing; includes loop protection
- **Open shortest path first (OSPF)**
delivers faster convergence; uses this link-state routing Interior Gateway Protocol (IGP), which supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery
- **Intermediate system to intermediate system (IS-IS)**
uses a path vector Interior Gateway Protocol (IGP), which is defined by the ISO organization for IS-IS routing and extended by IETF RFC 1195 to operate in both TCP/IP and the OSI reference model (Integrated IS-IS)
- **Static IPv6 routing**
provides simple manually configured IPv6 routing
- **Dual IP stack**
maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design
- **Routing Information Protocol next generation (RIPng)**
extends RIPv2 to support IPv6 addressing
- **OSPFv3**
provides OSPF support for IPv6
- **BGP+**
extends BGP-4 to support Multiprotocol BGP (MBGP), including support for IPv6 addressing
- **IS-IS for IPv6**
extends IS-IS to support IPv6 addressing
- **IPv6 tunneling**
allows IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6to4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels; is an important element for the transition from IPv4 to IPv6
- **Multiprotocol Label Switching (MPLS)**
uses BGP to advertise routes across Label Switched Paths (LSPs), but uses simple labels to forward packets from any Layer 2 or Layer 3 protocol, which reduces complexity and increases performance; supports graceful restart for reduced failure impact; supports LSP tunneling and multilevel stacks
- **Multiprotocol Label Switching (MPLS) Layer 3 VPN**
allows Layer 3 VPNs across a provider network; uses MP-BGP to establish private routes for increased security; supports RFC 2547bis multiple autonomous system VPNs for added flexibility
- **Multiprotocol Label Switching (MPLS) Layer 2 VPN**
establishes simple Layer 2 point-to-point VPNs across a provider network using only MPLS Label Distribution Protocol (LDP); requires no routing and therefore decreases complexity, increases performance, and allows VPNs of non-routable protocols; uses no routing information for increased security; supports Circuit Cross Connect (CCC), Static Virtual Circuits (SVCs), Martini draft, and Kompella-draft technologies

Overview

- **Policy routing**
allows custom filters for increased performance and security; supports ACLs, IP prefix, AS paths, community lists, and aggregate policies
- **Multicast VPN**
supports Multicast Domain (MD) multicast VPN, which can be distributed on separate service cards, providing high performance and flexible configuration
- **Border Gateway Protocol 4**
Exterior Gateway Protocol (EGP) with path vector protocol uses TCP for enhanced reliability for the route discovery process, reduces bandwidth consumption by advertising only incremental updates, and supports extensive policies to increase flexibility and scale to large networks
- **OSPFv3 MCE**
Multi-VPN-Instance CE (MCE) binds different VPNs to different interfaces on one single CE; the OSPFv3 MCE feature creates and maintains separate OSPFv3 routing tables for each IPv6 VPN to isolate VPN services in the device

Security

- **Access control list**
supports powerful ACLs for both IPv4 and IPv6; ACLs are used for filtering traffic to prevent illegal users from accessing the network or for controlling network traffic flow; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header; rules can also be set to operate on specific dates or times
- **Remote Authentication Dial-In User Service (RADIUS)**
eases switch security access administration by using a password authentication server
- **Terminal Access Controller Access-Control System (TACACS+)**
delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security
- **Network address translation (NAT)**
supports repeated multiplexing of a port and automatic 5-tuple collision detection, enabling NAT to support unlimited connections; supports blacklist in NAT/NAPT/internal server, a limit on the number of connections, session log, and multi-instance
- **Secure shell (SSHv2)**
uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of Secure FTP (SFTP) transfers
- **Unicast Reverse Path Forwarding (URPF)**
allows normal packets to be forwarded correctly, but discards the attaching packet due to lack of reverse path route or incorrect inbound interface; prevents source spoofing and distributed attacks; supports distributed URPF
- **Dynamic Virtual Private Network (DVPN)**
collects, maintains, and distributes dynamic public addresses through the VPN Address Management (VAM) protocol, making VPN establishment available between enterprise branches that use dynamic addresses to access the public network; compared to traditional VPN technologies, DVPN technology is more flexible and has richer features, such as NAT traversal of DVPN packets, AAA identity authentication, IPSec protection of data packets, and multiple VPN dom

Multicast support

- **Internet Group Management Protocol (IGMP)**
is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks
- **Protocol Independent Multicast (PIM)**
is used for IPv4 and IPv6 multicast applications; supports PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM)
- **Multicast Source Discovery Protocol (MSDP)**
is used for interdomain multicast applications, allowing multiple PIM-SM domains to interoperate
- **Multicast Border Gateway Protocol (MBGP)**

Overview

allows multicast traffic to be forwarded across BGP networks separately from unicast traffic

Integration

- **Embedded VPN firewall**
provides enhanced stateful packet inspection and filtering; provides advanced VPN services with 3DES and AES encryption at high performance and low latency
- **Open Application Architecture (OOA)**
provides both software and hardware platforms based on open standards so that third-party applications can be integrated seamlessly into routers

Additional information

- **Green initiative support**
provides support for RoHS and WEEE regulations

Product architecture

- **Multicore CPU**
delivers multi-thread processing, with eight cores and 32 hardware threads
- **Distributed processing**
the main processing engine and service engine have separate hardware for high performance and parallel processing; the main processing engine is used for route calculation and system management, while the service engine is used for service processing
- **Separate FIP card and interface card**
interface cards are separated from the FIP card to support flexible service configurations

Warranty and support

- **1-year Warranty 2.0**
advance hardware replacement with 10-calendar-day delivery (available in most countries)
- **Electronic and telephone support (for Warranty 2.0)**
limited electronic and 24x7 telephone support is available from HP for the entire warranty period; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary
- **Software releases**
to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

Configuration

Build To Order:

BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

Models

HP 6602 Router Chassis

- 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers)
- 2 HIM/MIM slots (Min=0 \ Max=2 HIM Modules or 2 MIM Modules or 1 Each)
- 2 - 1G DDR2 SDRAM included (JC071A)
- 1 - 150w Power Supply included
- 1U High

JC176A
See Configuration
Note: 1,3,4

Russian Reduced Encryption

HP HSR6602-G Router

- 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers)
- 1 Service Module Slot (FIP10 or FIP20 Modules only)
- 1 - 2G DDR3 SDRAM included (JG482A)
- Must select min 1 Power Supply
- 2U High

JC176A#A59
JG353A
See Configuration
Note: 1,3,5

HP HSR6602-XG Router

- 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers)
- 2 10GbE SFP+ ports (Min 0 // Max 2 SFP+ 10G Transceivers)
- 1 Service Module Slot (FIP10 or FIP20 Modules only)
- 2 - 2G DDR3 SDRAM included (JG482A)
- Must select min 1 Power Supply
- 2U High

JG354A
See Configuration
Note: 1,2,3,5

HP 6604 Router Chassis

- 2 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 1 Power Supply
- 5U High

JC178B
See Configuration
Note: 5

HP 6608 Router Chassis

- 8 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 2 Power Supply
- 20U High

JC177B
See Configuration
Note: 5

HP 6616 Router Chassis

- 8 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 2 Power Supply
- 20U High

JC496A
See Configuration
Note: 5

Configuration Rules:

Configuration

- Note 1** The following Transceivers install into this Router:
- | | |
|---|--------|
| HP X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HP X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HP X125 1G SFP LC LH70 Transceiver | JD063B |
| HP X120 1G SFP LC LH100 Transceiver | JD103A |
| HP X120 1G SFP LC BX 10-U Transceiver | JD098B |
| HP X120 1G SFP LC BX 10-D Transceiver | JD099B |
- Note 2** The following Transceivers install into this Router: (Use #0D1 if switch is CTO)
- | | |
|---|--------|
| HP X130 10G SFP+ LC SR Transceiver | JD092B |
| HP X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| HP X130 10G SFP+ LC LR Transceiver | JD094B |
- Note 3** If this product is ordered for delivery to Russia, it must be ordered with the A59 option (also allowed for other countries desiring Low Encryption), then #A59 is the required option for BTO, and must be added in addition to #0D1 for CTO.
- Note 4** Localization required. (See Localization Menu)
- Note 5** Show following warning when Router is selected - "Warning - Min/Max of 1 JC180A HP 6600 Router Software License is required when ordering this Router Chassis"

Configuration Information - Factory Integrated Models - CTO

HP 66xx CTO Router Solution	JG498A
<ul style="list-style-type: none"> SSP trigger sku 	
HP HSR 6602-G Router	JG353A
<ul style="list-style-type: none"> 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers) 1 Service Module Slot (FIP10 or FIP20 Modules only) 1 - 2G DDR3 SDRAM included (JG482A) Must select min 1 Power Supply 2U High 	See Configuration Note: 2, 4, 10
HP HSR 6602-XG Router	JG354A
<ul style="list-style-type: none"> 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers) 2 10GbE SFP+ ports (Min 0 // Max 2 SFP+ 10G Transceivers) 2 - 2G DDR3 SDRAM included (JG482A) 1 Service Module Slot (FIP10 or FIP20 Modules only) Must select min 1 Power Supply 2U High 	See Configuration Note: 2,3,10
HP 6604 Router Chassis	JC178B
<ul style="list-style-type: none"> 2 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only) 2 MPU (for management module) slots Must select Router Software License Must select Management Module Must select min 1 Power Supply 5U High 	See Configuration Note: 1,10
HP 6608 Router Chassis	JC177B

Configuration

- 4 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 1 Power Supply
- 7U High

See Configuration
Note: 1,10

HP 6616 Router Chassis

- 8 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 2 Power Supply
- 20U High

JC496A
See Configuration
Note: 1,10

Configuration Rules:

Note 1 Show following warning when Router is selected - "Warning - Min/Max of 1 JC180A HP 6600 Router Software License is required when ordering this Router Chassis"

Note 2 The following Transceivers install into this Router:

HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B

Note 3 The following Transceivers install into this Router: (Use #0D1 if switch is CTO)

HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP X130 10G SFP+ LC LR Transceiver	JD094B

Note 10 If the Router Chassis is Box Level Factory Integrated (CTO), Then the #0D1 is required on the Router Chassis and integrated to the JG498A - HP 6600 CTO Enablement.(Min 1/Max 1 Router per SSP)

Rack Level Integration CTO Models

Models

HP HSR 6602-G Router

- 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers)
- 1 Service Module Slot (FIP10 or FIP20 Modules only)
- 1 - 2G DDR3 SDRAM included (JG482A)
- Must select min 1 Power Supply
- 2U High

JG353A
See Configuration
Note: 1, 4

Russian Reduced Encryption

HP HSR6602-XG Router

- 4 SFP ports (Min 0 // Max 4 SFP 1G Transceivers)
- 2 10GbE SFP+ ports (Min 0 // Max 2 SFP+ 10G Transceivers)
- 1 Service Module Slot (FIP10 or FIP20 Modules only)
- 2 - 2G DDR3 SDRAM included (JG482A)

JG353A#A59
JG354A
See Configuration
Note:1, 2, 4

Configuration

- 2 CF Memory slots: (Min 0 // Max 1)
- Must select min 1 Power Supply
- 2U High

Russian Reduced Encryption

JG354A#A59

HP 6604 Router Chassis

JC178B

- 2 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 1 Power Supply
- 5U High

See Configuration Note:3

HP 6608 Router Chassis

JC177B

- 4 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 1 Power Supply
- 7U High

See Configuration Note:3

HP 6616 Router Chassis

JC496A

- 8 Service Modules slots (FIP10, FIP20, FIP110 or FIP210 Modules only)
- 2 MPU (for management module) slots
- Must select Router Software License
- Must select Management Module
- Must select min 2 Power Supply
- 20U High

See Configuration Note:3

Configuration Rules:

- Note 1** The following Transceivers install into this Router:
- | | |
|---|--------|
| HP X125 1G SFP LC LH40 1310nm Transceiver | JD061A |
| HP X120 1G SFP LC LH40 1550nm Transceiver | JD062A |
| HP X125 1G SFP LC LH70 Transceiver | JD063B |
| HP X120 1G SFP LC LH100 Transceiver | JD103A |
| HP X120 1G SFP LC BX 10-U Transceiver | JD098B |
| HP X120 1G SFP LC BX 10-D Transceiver | JD099B |
- Note 2** The following Transceivers install into this Router: (Use #0D1 if switch is CTO)
- | | |
|---|--------|
| HP X130 10G SFP+ LC SR Transceiver | JD092A |
| HP X130 10G SFP+ LC ER 40km Transceiver | JG234A |
| HP X130 10G SFP+ LC LR Transceiver | JD094A |
- Note 3** Show following warning when Router is selected - "Warning - Min/Max of 1 JC180A HP 6600 Router Software License is required when ordering this Router Chassis"
- Note 4** If this product is ordered for delivery to Russia, it must be ordered with the A59 option (also allowed for other countries desiring Low Encryption), then #A59 is the required option for BTO, and must be added in addition to #0D1 for CTO.

Configuration

Enter the following menu selections as integrated to the CTO Model X server above if order is factory built.

Internal Power Supplies	(JC176A Router Only) // Not Supported	
	(JC496A Only) System (std 0 // max 4) User Selection (min 2 // max 4) per router	
	(JC177B and JC178B Only) - System (std 0 // max 2) User Selection (min 1 // max 2) per router	
	(JG353A, JG776A, JG354A, JG777A Only) - System (std 0 // max 2) User Selection (min 1 // max 2) per router	
	HP 7500 650W DC Power Supply	JD209A See Configuration Note:1,2
	HP 7500 650W AC Power Supply includes 1 x c13, 650w	JD217A See Configuration Note:1,2,5
	PDU Cable NA/MEX/TW/JP C15 PDU Jumper Cord (NA/MEX/TW/JP)	JD217A#B2B
	PDU Cable ROW C15 PDU Jumper Cord (ROW)	JD217A#B2C
	High Volt Switch/Router to Wall Power Cord NEMA L6-20P Cord (NA/MEX/JP/TW)	JD217A#B2E
	HP 6616 650W DC Router Power Supply	JC493A See Configuration Note:1,3
	HP 6616 650W AC Router Power Supply includes 1 x c13, 650w	JC492A See Configuration Note:1,3,5
	PDU Cable NA/MEX/TW/JP C15 PDU Jumper Cord (NA/MEX/TW/JP)	JC492A#B2B
	PDU Cable ROW C15 PDU Jumper Cord (ROW)	JC492A#B2C
	High Volt Switch/Router to Wall Power Cord NEMA L6-20P Cord (NA/MEX/JP/TW)	JC492A#B2E
	HP 5800 300W DC Power Supply	JC090A See Configuration Note: 4
	HP 5800 300W AC Power Supply includes 1 x c13, 650w	JC087A See Configuration Note:1,4,5,6
	PDU Cable NA/MEX/TW/JP C15 PDU Jumper Cord (NA/MEX/TW/JP)	JC087A#B2B
	PDU Cable ROW C15 PDU Jumper Cord (ROW)	JC087A#B2C

Configuration Rules

Configuration

- Note 1** If 2 power supplies are selected they must be the same Sku number.
- Note 2** Only supported on the 6604 (JC178B) and (JC177B) 6608 routers.
- Note 3** Only supported on the 6616 (JC496A) routers.
- Note 4** Only supported on the new JG353A, JG776A, JG354A, JG777A routers.
- Note 5** Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) or #B2E. (See Localization Menu)
- Note 6** When Switches/Routers are Factory Racked, Then #B2B, or #B2C should be the Defaulted Power Cable option on the Switches/Routers.
- Remarks:** Drop down under power supply should offer the following options and results:
 Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)
 Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)

- High Volt Switch/Router/Power Supply to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)

HP 6602 Router Chassis - Chile - English localization	JC176A#A1X
Power Cord: Quantity : 1, CEI 23-50, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0825	
HP 6602 Router Chassis - U.S. - English localization	JC176A#ABA
Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 125 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0822	
HP 6602 Router Chassis - Europe - English localization	JC176A#ABB
Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	
HP 6602 Router Chassis - Australia - English localization	JC176A#ABG
Power Cord: Quantity : 1, AS/NZS 3112, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0828	
HP 6602 Router Chassis - Brazil - Portuguese localization	JC176A#AC4
Power Cord: Quantity : 1, NBR 14136 Fig13, C13 STRAIGHT, 250 V, 2.5 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1069	
HP 6602 Router Chassis - Korea - English localization	JC176A#AC6
Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	
HP 6602 Router Chassis - United Kingdom - English localization	JC176A#ACC
Power Cord: Quantity : 1, BS 1363/A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0824	
HP 6602 Router Chassis - Switzerland - English localization	JC176A#ACD
Power Cord: Quantity : 1, SEV 6534-2 Type 12, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0827	
HP 6602 Router Chassis - Denmark - English localization	JC176A#ACE
Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0826	
HP 6602 Router Chassis - Denmark - English localization	JC176A#ACE
Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0733	
HP 6602 Router Chassis - Japan - English localization	JC176A#ACF

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Power Cord: Quantity : 1, JIS C 8303, C13 STRAIGHT, 125 V, 12 A, 2.3 meters, 7.55 feet , Part Store #: 8120-4753	
HP 6602 Router Chassis - India - English localization	JC176A#ACJ
Power Cord: Quantity : 1, IS 1293, C13 STRAIGHT, 250 V, 10 A, 2.3 meters, 7.55 feet , Part Store #: 8121-0780	
HP 6602 Router Chassis - South Africa - English localization	JC176A#ACQ
Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	
HP 6602 Router Chassis - Israel - English localization	JC176A#AKJ
Power Cord: Quantity : 1, SI 32 90-DEG, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1035	
HP 6602 Router Chassis - Thailand - English localization	JC176A#AKL
Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-0673	
HP 6602 Router Chassis - China - English localization	JC176A#AKM
Power Cord: Quantity : 1, GB 1002, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0829	
HP 6602 Router Chassis - Taiwan - English localization	JC176A#ARB
Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0964	
HP 6602 Router Chassis - Taiwan - English localization	JC176A#ARB
Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 3.6 meters, 11.82 feet , Part Store #: 8121-0965	
HP 6602 Router Chassis - Argentina - English localization	JC176A#ARM
Power Cord: Quantity : 1, IRAM 2073, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0883	
HP 7500 650W AC Power Supply - Chile - English localization	JD217A#A1X
Power Cord: Quantity : 1, CEI 23-50, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0825	
HP 7500 650W AC Power Supply - U.S. - English localization	JD217A#ABA
Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 125 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0822	
HP 7500 650W AC Power Supply - Europe - English localization	JD217A#ABB
Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	
HP 7500 650W AC Power Supply - Australia - English localization	JD217A#ABG
Power Cord: Quantity : 1, AS/NZS 3112, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0828	
HP 7500 650W AC Power Supply - Brazil - Portuguese localization	JD217A#AC4
Power Cord: Quantity : 1, NBR 14136 Fig13, C13 STRAIGHT, 250 V, 2.5 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1069	
HP 7500 650W AC Power Supply - Korea - English localization	JD217A#AC6
Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	
HP 7500 650W AC Power Supply - United Kingdom - English localization	JD217A#ACC
Power Cord: Quantity : 1, BS 1363/A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0824	

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HP 7500 650W AC Power Supply - Switzerland - English localization Power Cord: Quantity : 1, SEV 6534-2 Type 12, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0827	JD217A#ACD
HP 7500 650W AC Power Supply - Denmark - English localization Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0733	JD217A#ACE
HP 7500 650W AC Power Supply - Japan - English localization Power Cord: Quantity : 1, JIS C 8303, C13 STRAIGHT, 125 V, 12 A, 2.3 meters, 7.55 feet , Part Store #: 8120-4753	JD217A#ACF
HP 7500 650W AC Power Supply - India - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JD217A#ACJ
HP 7500 650W AC Power Supply - South Africa - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JD217A#ACQ
HP 7500 650W AC Power Supply - Israel - English localization Power Cord: Quantity : 1, SI 32 90-DEG, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1035	JD217A#AKJ
HP 7500 650W AC Power Supply - Thailand - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-0673	JD217A#AKL
HP 7500 650W AC Power Supply - China - English localization Power Cord: Quantity : 1, GB 1002, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0829	JD217A#AKM
HP 7500 650W AC Power Supply - Taiwan - English localization Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0964	JD217A#ARB
HP 7500 650W AC Power Supply - Argentina - English localization Power Cord: Quantity : 1, IRAM 2073, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0883	JD217A#ARM
HP 6616 650W AC Router Power Supply - Chile - English localization Power Cord: Quantity : 1, CEI 23-50, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0825	JC492A#A1X
HP 6616 650W AC Router Power Supply - U.S. - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 125 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0822	JC492A#ABA
HP 6616 650W AC Router Power Supply - Europe - English localization Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	JC492A#ABB
HP 6616 650W AC Router Power Supply - Australia - English localization Power Cord: Quantity : 1, AS/NZS 3112, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0828	JC492A#ABG
HP 6616 650W AC Router Power Supply - Brazil - Portuguese localization Power Cord: Quantity : 1, NBR 14136 Fig13, C13 STRAIGHT, 250 V, 2.5 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1069	JC492A#AC4

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HP 6616 650W AC Router Power Supply - Korea - English localization Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	JC492A#AC6
HP 6616 650W AC Router Power Supply - United Kingdom - English localization Power Cord: Quantity : 1, BS 1363/A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0824	JC492A#ACC
HP 6616 650W AC Router Power Supply - Switzerland - English localization Power Cord: Quantity : 1, SEV 6534-2 Type 12, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0827	JC492A#ACD
HP 6616 650W AC Router Power Supply - Denmark - English localization Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0826	JC492A#ACE
HP 6616 650W AC Router Power Supply - Japan - English localization Power Cord: Quantity : 1, JIS C 8303, C13 STRAIGHT, 125 V, 12 A, 2.3 meters, 7.55 feet , Part Store #: 8120-4753	JC492A#ACF
HP 6616 650W AC Router Power Supply - India - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JC492A#ACJ
HP 6616 650W AC Router Power Supply - South Africa - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JC492A#ACQ
HP 6616 650W AC Router Power Supply - Israel - English localization Power Cord: Quantity : 1, SI 32 90-DEG, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1035	JC492A#AKJ
HP 6616 650W AC Router Power Supply - Thailand - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-0673	JC492A#AKL
HP 6616 650W AC Router Power Supply - China - English localization Power Cord: Quantity : 1, GB 1002, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0829	JC492A#AKM
HP 6616 650W AC Router Power Supply - Taiwan - English localization Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 3.6 meters, 11.82 feet , Part Store #: 8121-0965	JC492A#ARB
HP 6616 650W AC Router Power Supply - Argentina - English localization Power Cord: Quantity : 1, IRAM 2073, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0883	JC492A#ARM
HP 5800 300W AC Power Supply - Chile - English localization Power Cord: Quantity : 1, CEI 23-50, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0825	JC087A#A1X
HP 5800 300W AC Power Supply - U.S. - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 125 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0822	JC087A#ABA
HP 5800 300W AC Power Supply - Europe - English localization Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	JC087A#ABB

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HP 5800 300W AC Power Supply - Australia - English localization Power Cord: Quantity : 1, AS/NZS 3112, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0828	JC087A#ABG
HP 5800 300W AC Power Supply - Brazil - Portuguese localization Power Cord: Quantity : 1, NBR 14136 Fig13, C13 STRAIGHT, 250 V, 2.5 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1069	JC087A#AC4
HP 5800 300W AC Power Supply - Korea - English localization Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	JC087A#AC6
HP 5800 300W AC Power Supply - United Kingdom - English localization Power Cord: Quantity : 1, BS 1363/A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0824	JC087A#ACC
HP 5800 300W AC Power Supply - Switzerland - English localization Power Cord: Quantity : 1, SEV 6534-2 Type 12, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0827	JC087A#ACD
HP 5800 300W AC Power Supply - Denmark - English localization Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0733	JC087A#ACE
HP 5800 300W AC Power Supply - Denmark - English localization Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0826	JC087A#ACE
HP 5800 300W AC Power Supply - Japan - English localization Power Cord: Quantity : 1, JIS C 8303, C13 STRAIGHT, 125 V, 12 A, 2.3 meters, 7.55 feet , Part Store #: 8120-4753	JC087A#ACF
HP 5800 300W AC Power Supply - India - English localization Power Cord: Quantity : 1, IS 1293, C13 STRAIGHT, 250 V, 10 A, 2.3 meters, 7.55 feet , Part Store #: 8121-0780	JC087A#ACJ
HP 5800 300W AC Power Supply - South Africa - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JC087A#ACQ
HP 5800 300W AC Power Supply - Israel - English localization Power Cord: Quantity : 1, SI 32 90-DEG, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1035	JC087A#AKJ
HP 5800 300W AC Power Supply - Thailand - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-0673	JC087A#AKL
HP 5800 300W AC Power Supply - China - English localization Power Cord: Quantity : 1, GB 1002, C13 STRAIGHT, 250 V, 10 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0742	JC087A#AKM
HP 5800 300W AC Power Supply - China - English localization Power Cord: Quantity : 1, GB 1002, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0829	JC087A#AKM
HP 5800 300W AC Power Supply - Taiwan - English localization Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0964	JC087A#ARB

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HP 5800 300W AC Power Supply - Taiwan - English localization Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 3.6 meters, 11.82 feet , Part Store #: 8121-0965	JC087A#ARB
HP 5800 300W AC Power Supply - Argentina - English localization Power Cord: Quantity : 1, IRAM 2073, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0883	JC087A#ARM
HP RPS 800 Redundant Power Supply - Chile - English localization Power Cord: Quantity : 1, CEI 23-50, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0825	JD183A#A1X
HP RPS 800 Redundant Power Supply - U.S. - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 125 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0822	JD183A#ABA
HP RPS 800 Redundant Power Supply - Europe - English localization Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	JD183A#ABB
HP RPS 800 Redundant Power Supply - Australia - English localization Power Cord: Quantity : 1, AS/NZS 3112, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0828	JD183A#ABG
HP RPS 800 Redundant Power Supply - Brazil - Portuguese localization Power Cord: Quantity : 1, NBR 14136 Fig13, C13 STRAIGHT, 250 V, 2.5 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1069	JD183A#AC4
HP RPS 800 Redundant Power Supply - Korea - English localization Power Cord: Quantity : 1, CEE 7-VII, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0823	JD183A#AC6
HP RPS 800 Redundant Power Supply - United Kingdom - English localization Power Cord: Quantity : 1, BS 1363/A, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0824	JD183A#ACC
HP RPS 800 Redundant Power Supply - Switzerland - English localization Power Cord: Quantity : 1, SEV 6534-2 Type 12, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0827	JD183A#ACD
HP RPS 800 Redundant Power Supply - Denmark - English localization Power Cord: Quantity : 1, DK 2-5A, C13 STRAIGHT, 250 V, 10 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0733	JD183A#ACE
HP RPS 800 Redundant Power Supply - Japan - English localization Power Cord: Quantity : 1, JIS C 8303, C13 STRAIGHT, 125 V, 12 A, 2.3 meters, 7.55 feet , Part Store #: 8120-4753	JD183A#ACF
HP RPS 800 Redundant Power Supply - India - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JD183A#ACJ
HP RPS 800 Redundant Power Supply - South Africa - English localization Power Cord: Quantity : 1, SABS 164, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0919	JD183A#ACQ
HP RPS 800 Redundant Power Supply - Israel - English localization Power Cord: Quantity : 1, SI 32 90-DEG, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-1035	JD183A#AKJ

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HP RPS 800 Redundant Power Supply - Thailand - English localization Power Cord: Quantity : 1, NEMA 5-15P, C13 STRAIGHT, 250 V, 10 A, 2.5 meters, 8.21 feet , Part Store #: 8121-0673	JD183A#AKL
HP RPS 800 Redundant Power Supply - China - English localization Power Cord: Quantity : 1, GB 1002, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0829	JD183A#AKM
HP RPS 800 Redundant Power Supply - Taiwan - English localization Power Cord: Quantity : 1, CNS 690 Type 2(1), C13 STRAIGHT, 125 V, 13 A, 1.9 meters, 6.24 feet , Part Store #: 8121-0964	JD183A#ARB
HP RPS 800 Redundant Power Supply - Argentina - English localization Power Cord: Quantity : 1, IRAM 2073, C13 STRAIGHT, 250 V, 10 A, 3 meters, 9.85 feet , Part Store #: 8121-0883	JD183A#ARM

Modules

Management Module slots	(JC176A, JG353A, JG776A, JG354A, JG777A Routers Only) // Not Supported (JC496A, JC177B, JC178B Router) System (std 0 // max 2) User Selection (min 1 // max 2) install in Service Engine Module	
	HP 6600 MCP-X1 Router MPU	JG355A
	<ul style="list-style-type: none"> Min 0 // Max 4 SFP1G Transceivers 1 - 2GB DDR3 SDRAM Included (JG482A) 	See Configuration Note: 1,4,7,8
	Russian Reduced Encryption	JG355A#A59
	HP 6600 MCP-X2 Router MPU	JG356A
	<ul style="list-style-type: none"> Min 0 // Max 4 SFP 1G Transceivers Min 0 // Max 2 SFP+10G Transceivers 2 - 2GB DDR3 SDRAM Included (JG482A) 	See Configuration Note: 1,4,6,7,8
	Russian Reduced Encryption	JG356A#A59
	HP 6600 RPE-X1 Main Processing Unit	JC165A
	<ul style="list-style-type: none"> 1 - 1GB DDR2 SDRAM Included (JC701A) 	See Configuration Note: 1,2,3,4,9
	Russian Reduced Encryption	JC165A#A59
	HP 6600 RSE-X1 Main Processing Unit	JC566A
	<ul style="list-style-type: none"> 2 - 1GB DDR2 SDRAM Included (JC701A) 	See Configuration Note: 1,4,9
	Russian Reduced Encryption	JC566A#A59
Note 1	No mixing of any type of MPU. Must all be the same sku.	
Note 2	If the RPE-X1 (JC165A or JG781A) is selected then the HP 6600RPE-X1 Carrier Card (JC497A) must be added to order as well.	
Note 4	If this product is ordered for delivery to Russia, it must be ordered with the A59 option (also allowed for other countries desiring Low Encryption), then #A59 is the required option for BTO, and must be added in addition to #0D1 for CTO.	
Note 5	The following Transceivers install into this Module: (Use #0D1 if router is CTO) - if applicable	
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A

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HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B
HP X115 100M SFP LC FX Transceiver	JD102B
HP X110 100M SFP LC LX Transceiver	JD120B
HP X110 100M SFP LC LH40 Transceiver	JD090A
HP X110 100M SFP LC LH80 Transceiver	JD091A

Note 6 The following SIC Modules install into this Module: (Use #0D1 if router is CTO) - if applicable

HP X130 10G SFP+ LC SR Transceiver	JD092A
HP X130 10G SFP+ LC LR Transceiver	JD094A

Note 7 The following Transceivers install into this Module: (Use #0D1 if switch is CTO)

HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B

Note 8 FIP-10 or FIP-20 Modules Only work with these MPUs: JG355A, JG778A, JG356A

Note 9 FIP-110 or FIP-210 Modules Only work with these MPUs: JC165A, JG781A, JC566A, JG780A

Remarks RSE-X1 (JC566A, JG780A) occupies a full-width slot.
RPE-X1 (JC165A, JG781A) occupies half-width slot.

Service Module Slot

(JC176A Router Only) // Not Supported	
(JG353A, JG776A, JG354A, JG777A Routers Only) System (std 0 // max 1) User Selection (min 0 // max 1) per router	See Configuration Note:1
(JC178B Router Only) System (std 0 // max 2) User Selection (min 0 // max 2) per router	See Configuration Note:1
(JC177B Router Only) System (std 0 // max 4) User Selection (min 0 // max 4) per router	See Configuration Note:1
(JC496A Router Only) System (std 0 // max 8) User Selection (min 0 // max 8) per router	See Configuration Note:1
HP 6600 FIP-10 Flex Intf Pltfrm Rtr Mod	JG357A
<ul style="list-style-type: none"> Min=0 \ Max=4 MIM Modules 	See Configuration Note: 4,8
HP 6600 FIP-20 Flex Intf Pltfrm Rtr Mod	JG358A
<ul style="list-style-type: none"> Min=0 \ Max=2 HIM Modules or 2 MIM Modules or 1 Each 	See Configuration Note: 5,8
HP 6600 FIP-110 Flexible Interface Platform Module	JC166B
<ul style="list-style-type: none"> min=0 \ max=2 SFP1G \\ Min=0 \ Max=4 MIM Modules 2 - 1GB DDR2 SDRAM Included (JC071A) 	See Configuration Note: 2,4,7
HP 6600 FIP-210 Flexible Interface Platform Module	JC167B
<ul style="list-style-type: none"> min=0 \ max=2 SFP 1G \\ Min=0 \ Max=2 HIM Modules or 2 MIM Modules or 1 Each 2 - 1GB DDR2 SDRAM Included (JC071A) 	See Configuration Note: 2,5,7

Configuration

HP 6600 48-port Gig-T Service Aggregation Platform Module	JC567A
<ul style="list-style-type: none"> No Transceivers 2 - 1GB DDR2 SDRAM Included (JC071A) 	See Configuration Note: 6,7
HP 6600 24-port GbE SFP Service Aggregation Platform Module	JC568A
<ul style="list-style-type: none"> min=0 \ max=24 SFP 100M/1G 2 - 1GB DDR2 SDRAM Included (JC071A) 	See Configuration Note: 3,6,7
HP 6600 48p GbE SFP Svc Agg Pltfrm Mod	JG556A
<ul style="list-style-type: none"> min=0 \ max=48 SFP 100M/1G 2 - 1GB DDR2 SDRAM Included (JC071A) 	See Configuration Note: 3,6,7

Configuration Rules

Note 1	If 2 of JC566A, JG355A or JG356A, JG778A, JG780A are selected, Then the Service Module slots max is reduced by 1.
Note 2	The following Transceivers installs into this Service Module: (Use #0D1 if router is CTO) - if applicable
	HP X120 1G SFP LC SX Transceiver JD118B
	HP X120 1G SFP LC LX Transceiver JD119B
	HP X125 1G SFP LC LH40 1310nm Transceiver JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver JD062A
	HP X125 1G SFP LC LH70 Transceiver JD063B
	HP X120 1G SFP LC LH100 Transceiver JD103A
	HP X120 1G SFP LC BX 10-U Transceiver JD098B
	HP X120 1G SFP LC BX 10-D Transceiver JD099B
Note 3	The following Transceivers install into this Service Module: (Use #0D1 if router is CTO) - if applicable
	HP X120 1G SFP LC SX Transceiver JD118B
	HP X120 1G SFP LC LX Transceiver JD119B
	HP X125 1G SFP LC LH40 1310nm Transceiver JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver JD062A
	HP X125 1G SFP LC LH70 Transceiver JD063B
	HP X120 1G SFP LC LH100 Transceiver JD103A
	HP X120 1G SFP LC BX 10-U Transceiver JD098B
	HP X120 1G SFP LC BX 10-D Transceiver JD099B
	HP X115 100M SFP LC FX Transceiver JD102B
	HP X110 100M SFP LC LX Transceiver JD120B
	HP X110 100M SFP LC LH40 Transceiver JD090A
	HP X110 100M SFP LC LH80 Transceiver JD091A
	HP X115 100M SFP LC BX 10-U Transceiver JD100A
	HP X115 100M SFP LC BX 10-D Transceiver JD101A
	HP X120 1G SFP RJ45 T Transceiver JD089B
Note 4	The following Modules installs into this Service Module: Max = 4 (Use #0D1 if router is CTO) - if applicable
	HP MSR 2-port Enhanced Serial MIM Mod JD540A
	HP MSR 4-port Enhanced Serial MIM Module JD541A
	HP MSR 8-port Sync/Async Interface Enhanced Module JD552A
	HP MSR 1-port FT3/CT3 MIM Module JD628A

Configuration

	HP 6600 8-port T1 MIM Router Module	JC160A
	HP 6600 8-port Fractional T1 MIM Router Module	JC159A
	HP MSR 8-port E1/CE1/PRI (75ohm) MIM Module	JD563A
	HP MSR 8-port Fractional E1 MIM Module	JF255A
	HP MSR 1-port FE3/CE3 MIM Module	JD630A
Note 5	The following Modules installs into this Service Module: Max = 2 (Use #0D1 if router is CTO) - if applicable	
	HP MSR 2-port Enhanced Serial MIM Mod	JD540A
	HP MSR 4-port Enhanced Serial MIM Module	JD541A
	HP MSR 8-port Sync/Async Interface Enhanced Module	JD552A
	HP MSR 1-port FT3/CT3 MIM Module	JD628A
	HP 6600 8-port T1 MIM Router Module	JC160A
	HP 6600 8-port Fractional T1 MIM Router Module	JC159A
	HP 6600 1-port OC-3 (E1/T1) CPOS HIM Router Module	JC161A
	HP 6600 2-port OC-3 E1/T1 CPOS HIM Router Module	JC162A
	HP 6600 4GbE WAN HIM Router Module	JC163A
	HP 6600 8GbE WAN HIM Router Module	JC164A
	HP 6600 2-port OC-3 E3/T3 CPOS HIM Router Module	JC169A
	HP 6600 1-port OC-3 (E3/T3) CPOS HIM Router Module	JC170A
	HP 6600 4-port GbE SFP HIM Router Module	JC171A
	HP 6600 4-port OC-3 / 2-port OC-12 POS HIM Router Module	JC172A
	HP 6600 1-port OC-48/STM-16 POS (SFP) Router Module	JC494A
	HP 6600 2-port OC-3 / 1-port OC-12 POS HIM Router Module	JC173A
	HP 6600 8-port GbE SFP HIM Router Module	JC174A
	HP 6600 1-port 10GbE XFP HIM Router Module	JC168A
	HP 6600 1-port OC-3c/STM-1c ATM HIM Router Module	JC175A
	HP 6600 2-port OC-3c/STM-1c ATM SFP Router Module	JC495A
	HP A6600 8-port 10/100Base-T HIM Module	JC575A
	HP A6600 2-port OC-48c/STM-16c RPR SFP HIM Module	JC576A
	HP MSR 8-port E1/CE1/PRI (75ohm) MIM Module	JD563A
	HP MSR 8-port Fractional E1 MIM Module	JF255A
	HP MSR 1-port FE3/CE3 MIM Module	JD630A
	HP 6600 8-port OC-3c/OC-12c POS / GbE SFP HIM Module	JG673A
Note 6	If this Module is selected, Then the JC566A - HP A6600 RSE-X1 Main Processing Unit is required.	
Note 7	This module is only supported in the following routers:	
	HP 6616 Router Chassis	JC496A
	HP 6608 Router Chassis	JC177B
	HP 6604 Router Chassis	JC178B
Note 8	If this Module is selected the JC178B, JC177B, and JC496A legacy routers, Then one of the following routers is required	
	HP 6600 MCP-X1 Router Main Processing Unit	JG355A
	HP 6600 MCP-X2 Router Main Processing Unit	JG356A
	(JC176A legacy Router does not support this module.)	

Configuration

MIM and HIM router Modules	(JC176A Router Only) System (std 0 // max 2) User Selection (min 0 // max 2) per router System (std 0 // max 2 or 4) User Selection (min 0 // max 2 or 4) per Service Module (See Service Modules for Port information)	
	HP 6600 1p OC-3 (E1/T1) CPOS HIM Rtr Mod min=0 \ max=1 SFP	JC161A See Configuration Note: 1,2
	HP 6600 2p OC-3 E1/T1 CPOS HIM Rtr Mod min=0 \ max=2 SFP	JC162A See Configuration Note: 1,2
	HP 6600 2p OC-3 E3/T3 CPOS HIM Rtr Mod min=0 \ max=2 SFP	JC169A See Configuration Note: 1,2
	HP 6600 1p OC-3 (E3/T3) CPOS HIM Rtr Mod min=0 \ max=1 SFP	JC170A See Configuration Note: 1,2
	HP 6600 4-port GbE SFP HIM Router Module min=0 \ max=4 SFP	JC171A See Configuration Note: 1,3
	HP 6600 4p OC-3/2p OC-12 POS HIM Rtr Mod min=0 \ max=4 SFP	JC172A See Configuration Note: 1,2,4,7
	HP 6600 2p OC-3/1p OC-12 POS HIM Rtr Mod min=0 \ max=2 SFP	JC173A See Configuration Note: 1,2,4,8
	HP 6600 1-p OC-48/STM-16 POS SFP Rtr Mo min=0 \ max=1 SFP	JC494A See Configuration Note: 1,5
	HP 6600 8-port GbE SFP HIM Router Module min=0 \ max=8 SFP	JC174A See Configuration Note: 1,3
	HP 6600 1p OC-3c/STM-1c ATM HIM Rtr Mod min=0 \ max=1 SFP	JC175A See Configuration Note: 1,2
	HP 6600 2p OC-3c/STM-1c ATM SFP Rtr Mod min=0 \ max=2 SFP	JC495A See Configuration Note: 1,2
	HP 6600 1p 10GbE XFP HIM Rtr Module min=0 \ max=1 XFP	JC168A See Configuration Note: 1,6
	HP A6600 2-p OC48c RPR SFP HIM Module min=0 \ max=2 SFP	JC576A See Configuration Note: 1,5
HP 2-Port Enhanced Serial MIM A-MSR Mod min=0 \ max=2 Serial Port Cable	JD540A See Configuration Note: 1,9	
HP 4-Port Enhanced Serial MIM A-MSR Mod	JD541A	

Configuration

min=0 \ max=4 Serial Port Cable	See Configuration Note: 1,9
HP 8p Enh Sync/Async Interface A-MSR Mod min=0 \ max=8 Serial Port Cable	JD552A See Configuration Note: 1,9
HP MSR 1-port FT3/CT3 MIM Module min=0 \ max=2 E3/T3 Cable	JD628A See Configuration Note: 1,11
HP 6600 8-port T1 MIM Router Module No Transceivers	JC160A See Configuration Note: 1
HP 6600 8-port Fractional T1 MIM Rtr Mod No Transceivers	JC159A See Configuration Note: 1
HP 6600 4GbE WAN HIM Router Module No Transceivers	JC163A See Configuration Note: 1
HP 6600 8GbE WAN HIM Router Module No Transceivers	JC164A See Configuration Note: 1
HP A6600 8-port 10/100Base-T HIM Module No Transceivers	JC575A See Configuration Note: 1
HP A-MSR 8-p E1/CE1/PRI (75ohm) MIM Mod must select 1 8-port E1 Cable	JD563A See Configuration Note: 1,10
HP MSR 8-port E1/Fractional E1 (75ohm) MIM Module must select 1 8-port E1 Cable	JF255A See Configuration Note: 1,10
HP MSR 1-port FE3/CE3 MIM Module min=0 \ max=2 E3/T3 Cable	JD630A See Configuration Note: 1,11
HP 6600 8-p OC-3/12c POS/GbE SFP HIM Mod min=0 \ max=8 SFP	JG673A See Configuration Note: 1,4,13

Configuration Rules

- Note 1** These Modules can install directly to the JC176A - HP A6602 Router Routers JC177B, JC178B, JC496A Requires JC166B, JC167B, JG357A or JG358A Flex Int Platform Module to install HIM or MIM modules.
Routers JG353A, JG776A, and JG354A, JG777A Requires the JG357A or JG358A Flex Int Platform Module to install HIM or MIM modules.
- Note 2** The following Transceivers install into this Module: (Use #0D1 if router is CTO) - if applicable

Configuration

	HP X115 100M SFP LC FX Transceiver	JD102B
	HP X110 100M SFP LC LX Transceiver	JD120B
	HP X110 100M SFP LC LH40 Transceiver	JD090A
	HP X110 100M SFP LC LH80 Transceiver	JD091A
Note 3	The following Transceivers install into this Module: (Use #0D1 if router is CTO) - if applicable	
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B
	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
	HP X120 1G SFP LC LH100 Transceiver	JD103A
	HP X120 1G SFP LC BX 10-U Transceiver	JD098B
	HP X120 1G SFP LC BX 10-D Transceiver	JD099B
	HP X115 100M SFP LC BX 10-U Transceiver	JD100A
	HP X115 100M SFP LC BX 10-D Transceiver	JD101A
	HP X115 100M SFP LC FX Transceiver	JD102B
	HP X110 100M SFP LC LX Transceiver	JD120B
	HP X110 100M SFP LC LH40 Transceiver	JD090A
	HP X110 100M SFP LC LH80 Transceiver	JD091A
Note 4	The following Transceivers install into this Module (Use #0D1 if router is CTO) - if applicable	
	HP X120 622M SFP LC LX 15km Transceiver	JF829A
	HP X120 622M SFP LC LH 80km 1550 Transceiver	JF831A
	HP X120 622M SFP LC LH 40km 1310 Transceiver	JF830A
Note 5	The following Transceivers install into this Module: (Use #0D1 if router is CTO) - if applicable	
	HP X160 2.5G SFP LC 2km Transceiver	JD084A
	HP X160 2.5G SFP LC 15km Transceiver	JD085A
	HP X160 2.5G SFP LC 40km Transceiver	JD086A
	HP X160 2.5G SFP LC 80km Transceiver	JD087A
Note 6	The following Transceivers install into this Module: (Use #0D1 if router is CTO) - if applicable	
	HP X135 10G XFP LC ER Transceiver	JD11A
	HP X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver	JD108B
	HP X130 10G XFP LC SR Transceiver	JD117B
Note 7	min=0 \ max=4 SFP (JD102B,JD120B,JD090A,JD091A) min=0 \ max=2 SFP (JF829A,JF831A,JF830A) X110 100M LC Transceiver (JD102B,JD120B,JD090A and JD091A) and X120 622M LC Transceiver (JF829A,JF831A and JF830A) cannot be used at the same time	
Note 8	min=0 \ max=2 SFP (JD102B,JD120B,JD090A,JD091A) min=0 \ max=1 SFP (JF829A,JF831A,JF830A) X110 100M LC Transceiver (JD102B,JD120B,JD090A and JD091A) and X120 622M LC Transceiver (JF829A,JF831A and JF830A) cannot be used at the same time	
Note 9	The following Cables install into this Module:	
	HP X200 V.24 DTE 3m Serial Port Cable	JD519A

Configuration

HP X200 V.24 DCE 3m Serial Port Cable	JD521A
HP X200 V.35 DTE 3m Serial Port Cable	JD523A
HP X200 V.35 DCE 3m Serial Port Cable	JD525A
HP X200 X.21 DTE 3m Serial Port Cable	JD527A
HP X200 X.21 DCE 3m Serial Port Cable	JD529A
HP X260 RS449 3m DTE Serial Port Cable	JF825A
HP X260 RS449 3m DCE Serial Port Cable	JF826A
HP X260 RS530 3m DTE Serial Port Cable	JF827A
HP X260 RS530 3m DCE Serial Port Cable	JF828A

Note 10 The following Cable install into this Module:

HP X260 8E1 BNC 75 ohm 3m Router Cable	JD512A
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Note 11 The following E3/T3 Cable and Connector install into this Module:

HP X260 T3/E3 Router Cable	JD531A
HP X260 E3-30 E3/T3 Router Cable	JD533A

Note 12 If this Module is selected, Then one of the following routers is required:

HP 6616 Router Chassis	JC496A
HP 6608 Router Chassis	JC177B
HP 6604 Router Chassis	JC178B

Note 13 The following Transceivers install into this Module: (Use #0D1 if router is CTO) - if applicable

HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B
HP X115 100M SFP LC FX Transceiver	JD102B
HP X110 100M SFP LC LX Transceiver	JD120B
HP X110 100M SFP LC LH40 Transceiver	JD090A
HP X110 100M SFP LC LH80 Transceiver	JD091A
HP X115 100M SFP LC BX 10-U Transceiver	JD100A
HP X115 100M SFP LC BX 10-D Transceiver	JD101A

Transceivers	SFP Transceivers		
	HP X110 100M SFP LC LX Transceiver		JD120B
	HP X110 100M SFP LC LH40 Transceiver		JD090A
	HP X110 100M SFP LC LH80 Transceiver		JD091A
	HP X110 100M SFP LC BX 10-U Transceiver		JD100A
	HP X110 100M SFP LC BX 10-D Transceiver		JD101A
	HP X115 100M SFP LC FX Transceiver		JD102B
	HP X120 622M SFP LC LX 15km Transceiver		JF829A
	HP X120 622M SFP LC LH 80km 1550 XCVR		JF831A
	HP X120 622M SFP LC LH 40km 1310 XCVR		JF830A
	HP X125 1G SFP LC LH40 1310nm XCVR		JD061A

Configuration

HP X120 1G SFP LC LH40 1550nm XCVR	JD062A
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP RJ45 T Transceiver	JD089B
HP X120 1G SFP LC BX 10-U Transceiver	JD098B

[See Configuration Note:1](#)

HP X120 1G SFP LC BX 10-D Transceiver	JD099B
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[See Configuration Note:1](#)

HP X160 2.5G SFP LC 2km Transceiver	JD084A
HP X160 2.5G SFP LC 15km Transceiver	JD085A
HP X160 2.5G SFP LC 40km Transceiver	JD086A
HP X160 2.5G SFP LC 80km Transceiver	JD087A

Note 1 Must be used in pairs for both ends

SFP+ Transceivers

HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A

XFP Transceivers

HP X135 10G XFP LC ER Transceiver	JD121A
HP X130 10G XFP LC LR 1310nm Transceiver	JD108B
HP X130 10G XFP LC SR Transceiver	JD117B

Cables

HP X200 V.24 DTE 3m Serial Port Cable	JD519A
HP X200 V.24 DCE 3m Serial Port Cable	JD521A
HP X200 V.35 DTE 3m Serial Port Cable	JD523A
HP X200 V.35 DCE 3m Serial Port Cable	JD525A
HP X200 X.21 DTE 3m Serial Port Cable	JD527A
HP X200 X.21 DCE 3m Serial Port Cable	JD529A
HP X260 RS449 3m DTE Serial Port Cable	JF825A
HP X260 RS449 3m DCE Serial Port Cable	JF826A
HP X260 RS530 3m DTE Serial Port Cable	JF827A
HP X260 RS530 3m DCE Serial Port Cable	JF828A
HP X260 E1 RJ45 BNC 75-120 ohm Conversion Router Cable	JD511A
HP X260 8E1 BNC 75 ohm 3m Router Cable	JD512A
HP X260 T3/E3 Router Cable	JD531A
HP X260 E3-30 E3/T3 Router Cable	JD533A

Remarks

The following cable is used for RJ45 BNC Conversion

HP X260 E1 RJ45 BNC 75-120 ohm Conversion Router Cable	JD511A
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Configuration

Router Specific Options	Licenses	System (std 0 // max 1) User Selection (min 0 // max 1) per switch enclosure HP MSR50 Router Software License	JD434A
	SDRAM	System (std 1 // max 2) User Selection (min 0 // max 2) per Main Processing Module HP A-Series 2GB DDR2 SDRAM	JG205A See Configuration Note:1
		HP MSR 256MB SDRAM	JD647A See Configuration Note:1
		HP MSR 512MB SDRAM	JD648A See Configuration Note:1
	<p>Configuration Rules These Memory Modules are supported on the following routers only:</p>		
	Note 1	HP MSR50 G2 Main Processing Unit HP MSR50 Main Processing Unit	JD429B JD653A
	Compact Flash cards	System (std 0 // max 1) User Selection (min 0 // max 1) HP X600 1G Compact Flash Card HP X600 512M Compact Flash Card HP X600 256M Compact Flash Card	JC684A JC685A JC686A
	<p>Configuration Rules These CF Cards are supported on the following routers only:</p>		
	Note 1	HP MSR50 G2 Main Processing Unit HP MSR50 Main Processing Unit	JD429B JD653A
	License Software	JF235A, JF287A, and JF679A Only System (std 0 // max 1) User Selection (min 0 // max 1) HP MSR30 Router Software License	JD679A
Router Enclosure Options	Carrier Card	System (std 0 // max 1) User Selection (min 0 // max 1) per routers HP X260 E3-30 E3/T3 Router Cable NOTE: RPE-X1 (JC165A, JG781A) is supported with HP 6600RPE-X1 Carrier Card (JC497A)	JC497A
	Dustproof Frames	User Selection (min 0 // max 1) per router HP 6604 Dustproof Router Frame NOTE: This Frame installs to the following routers only: JC496A - HP A6616 Router Chassis HP 6608 Dustproof Router Frame NOTE: This Frame installs to the following routers only: JC177B - HP A6608 Router Chassis HP 6616 Dustproof Router Frame	JC572A JC573A JC574A

Configuration

NOTE: This Frame installs to the following routers only:
JC178B - HP A6604 Router Chassis

External Redundant Power supply	<p>JC176A only - System (std 0 // max 1) User Selection (min 0 // max 1) per router</p> <p>HP RPS 800 Redundant Power Supply JD183A</p> <p>NOTE: JD637 - HP X290 MSR30 1m RPS Cable is required if power supply is selected.</p> <p>NOTE: Localization required. (See Localization Menu for list.)</p> <p>Remarks: Installation Guide recommends a tray be installed in the rack to support the weight.</p>
Redundant Power supply cable	<p>JC176A only - System (std 0 // max 1) User Selection (min 0 // max 1) per router</p> <p>HP X290 MSR30 1m RPS Cable JD637A</p> <p>NOTE: If the JD183A - HP RPS 800 A Redundant Power Supply is selected Then this sku is required.</p>
Router Software License	<p>User Selection (min 1 // max 1) per router</p> <p>HP 6600 Router Software License JC180A</p> <p>NOTE: This License installs to the following routers only: JC496A - HP A6616 Router Chassis JC177B - HP A6608 Router Chassis JC178B - HP A6604 Router Chassis</p>
Spare Fan Assembly	<p>User Selection (min 0 // max 1) per router</p> <p>HP 6602-A Router Spare Fan Assembly JG359A</p> <p>NOTE: This Fan Assembly installs to the following routers only: JG353A - HP HSR6602-G Router JG354A - HP HSR6602-XG Router</p> <p>HP 6604 Spare Router Fan Assembly JC569A</p> <p>NOTE: This Fan Assembly installs to the following routers only: JC178B - HP A6604 Router Chassis</p> <p>HP 6608 Spare Router Fan Assembly JC570A</p> <p>NOTE: This Fan Assembly installs to the following routers only: JC177B - HP A6608 Router Chassis</p> <p>HP 6616 Spare Router Fan Assembly JC571A</p> <p>NOTE: This Fan Assembly installs to the following routers only: JC496A - HP A6616 Router Chassis</p>
Memory	<p>HP X610 2G VLP DDR3 SDRAM Memory JG482A</p>

Configuration

NOTE:

System (std 1 // max 2) User Selection (min 0 // max 1)

Only supported on:

JG353A - HP HSR6602-G Router

JG776A - HP HSR6602-G TAA Router

JG355A - HP 6600 MCP-X1 Router MPU

HP 6600 1GB SDRAM

JC179A

NOTE: This memory installs to the following routers only:

JC496A - HP 6616 Router Chassis

JC177B - HP 6608 Router Chassis

JC178B - HP 6604 Router Chassis

HP X610 1GB DDR2 SDRAM Memory

JC071A

NOTE: System (std 1 // max 2) User Selection (min 0 // max 1)

Only supported on:

JC165A - HP 6600 RPE-X1 Main Processing Unit

JG781A - HP 6600 RPE-X1 Router TAA MPU

Compact Flash

JG353A, JG776A, JG354A, JG777A only - System (std 1 // max 2) User Selection (min 0 // max 1) per router

HP X600 512M Compact Flash Card

JC685A

NOTE:

This Compact Flash installs to the following routers only:

JG353A - HP HSR6602-G Router

JG354A - HP HSR6602-XG Router

HP X600 1G Compact Flash Card

JC684A

NOTE:

This Compact Flash installs to the following routers only:

JG353A - HP HSR6602-G Router

JG354A - HP HSR6602-XG Router

Technical Specifications

HP 6602 Router (JC176A)

I/O ports and slots	2 HIM slots
Physical characteristics	Dimensions 17.40(w) x 18.11(d) x 1.73(h) in (44.2 x 46 x 4.4 cm) (1U height)
	Weight 14.77 lb (6.7 kg)
	Full configuration weight 16.53 lb (7.5 kg)
Memory and processor	Multi-core MIPS @ 1000 MHz, 2 GB DDR2 SDRAM, 4 GB DDR2 SDRAM, 256 MB flash, 1 GB flash; packet buffer size: 128 MB DDR2 SDRAM
Mounting	EIA standard 19 in. rack
Performance	Throughput up to 4.5 million pps
	Routing table size 1000000 entries (IPv4), 300000 entries (IPv6)
	Forwarding table size 1000000 entries (IPv4), 100000 entries (IPv6)
	Backplane bandwidth 48 Gb/s
Environment	Operating temperature 32°F to 113°F (0°C to 45°C)
	Operating relative humidity 10% to 95%, noncondensing
	Nonoperating/Storage temperature 14°F to 131°F (-10°C to 55°C)
	Nonoperating/Storage relative humidity 5% to 95%, noncondensing
Electrical characteristics	Frequency 50/60 +/- 2 Hz
	Maximum heat dissipation 410 BTU/hr (432.55 kJ/hr)
	AC Voltage 100-240 VAC
	Maximum power rating 150 W
Reliability	MTBF (years) 26.24
	MTTR (hours) 1.0
Safety	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2-60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products

Technical Specifications

Emissions	FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000:4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11
Management	IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB
Notes	Routers that will be shipped to Russia will support only low-level encryption (56 bit) security features by default.
Services	<p>3-year, parts only, global next-day advance exchange (HP826E)</p> <p>3-year, 4-hour onsite, 13x5 coverage for hardware (HP830E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware (HP817E)</p> <p>3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HP820E)</p> <p>3-year, 24x7 SW phone support, software updates (HP823E)</p> <p>1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR524E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR525E)</p> <p>1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR526E)</p> <p>4-year, 4-hour onsite, 13x5 coverage for hardware (HP831E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware (HP818E)</p> <p>4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP821E)</p> <p>4-year, 24x7 SW phone support, software updates (HP824E)</p> <p>5-year, 4-hour onsite, 13x5 coverage for hardware (HP832E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware (HP819E)</p> <p>5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP822E)</p> <p>5-year, 24x7 SW phone support, software updates (HP825E)</p> <p>3 Yr 6 hr Call-to-Repair Onsite (HP827E)</p> <p>4 Yr 6 hr Call-to-Repair Onsite (HP828E)</p> <p>5 Yr 6 hr Call-to-Repair Onsite (HP829E)</p> <p>1-year, 6 hour Call-To-Repair Onsite for hardware (HR528E)</p> <p>1-year, 24x7 software phone support, software updates (HR527E)</p>

Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP 6604 Router Chassis (JC178B)

I/O ports and slots	4 HIM slots 2 SAP slots or , or a combination	
Additional ports and slots	2 MPU (for management modules) slots	
Physical characteristics	Dimensions	17.17(w) x 18.9(d) x 8.66(h) in (43.61 x 48.01 x 22 cm) (5U height)
	Weight	45.19 lb (20.5 kg)
	Full configuration weight	83.77 lb (38 kg)
Memory and processor	Multi-core MIPS @ 1000 MHz, 2 GB DDR2 SDRAM, 4 GB DDR2 SDRAM, 256 MB flash, 1 GB flash; packet buffer size: 128 MB DDR2 SDRAM	
Mounting	EIA standard 19 in. rack	

Technical Specifications

Performance	Throughput	up to 36 million pps
	Routing table size	2000000 entries (IPv4), 500000 entries (IPv6)
	Forwarding table size	1000000 entries (IPv4), 300000 entries (IPv6)
	Backplane bandwidth	100 Gb/s
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Nonoperating/Storage temperature	14°F to 131°F (-10°C to 55°C)
	Operating relative humidity	5% to 95%, noncondensing
Electrical characteristics	Frequency	50/60 +/- 2 Hz
	Maximum heat dissipation	1126 BTU/hr (1187.93 kJ/hr)
	AC Voltage	100-240 VAC
	Maximum power rating	650 W
Availability	MTBF (years)	31.19
	MTTR (hours)	1.0
Safety	<p>CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2-60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products</p>	
Emissions	<p>FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000:4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11</p>	
Management	<p>IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB</p>	
Notes	<p>The chassis supports a maximum of four HIM or two SAP slots, or a combination thereof; it supports two HIM or one SAP slot with the redundant JC566A. The forwarding table size shown is with the use of JC566A. JC165A delivers forwarding of 500,000 IPv4 and 100,000 IPv6 addresses.</p>	
Services	<p>3-year, parts only, global next-day advance exchange (UW054E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UW062E)</p>	

Technical Specifications

- 3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (HR530E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV943E)
- 3-year, 24x7 SW phone support, software updates (UV955E)
- 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR529E)
- 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR531E)
- 4-year, 4-hour onsite, 13x5 coverage for hardware (UW063E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware (UV931E)
- 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV944E)
- 4-year, 24x7 SW phone support, software updates (UV956E)
- 5-year, 4-hour onsite, 13x5 coverage for hardware (UW064E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware (UV932E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV945E)
- 5-year, 24x7 SW phone support, software updates (UV957E)
- 3 Yr 6 hr Call-to-Repair Onsite (UW055E)
- 4 Yr 6 hr Call-to-Repair Onsite (UW056E)
- 5 Yr 6 hr Call-to-Repair Onsite (UW057E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR533E)
- 1-year, 24x7 software phone support, software updates (HR532E)

Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP 6608 Router Chassis (JC177B)

I/O ports and slots	8 HIM slots, 4 SAP slots, or a combination	
Additional ports and slots	2 MPU (for management modules) slots	
Physical characteristics	Dimensions	17.17(w) x 18.74(d) x 12.13(h) in (43.61 x 47.6 x 30.81 cm) (7U height)
	Weight	54.01 lb (24.5 kg)
	Full configuration weight	110.23 lb (50 kg)
Mounting and enclosure	EIA standard 19 in. rack	
Performance	Throughput	up to 108 mpps
	Routing table size	2000000 entries (IPv4), 500000 entries (IPv6)
	Forwarding table size	1000000 entries (IPv4), 300000 entries (IPv6)
	Backplane bandwidth	300 Gb/s
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Nonoperating/Storage temperature	14°F to 131°F (-10°C to 55°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Frequency	50/60 +/- 2 Hz

Technical Specifications

	Maximum heat dissipation	1910 BTU/hr (2015.05 kJ/hr)
	AC Voltage	100-240 VAC
	Maximum power rating	650 W
Reliability	MTBF (years)	26.80
	MTTR (hours)	1.0
Safety	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2-60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products	
Emissions	FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000:4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11	
Management	IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
Notes	The chassis supports a maximum of eight HIM or four SAP slots, or a combination thereof; it supports six HIM or three SAP slots, or a combination thereof, with the redundant JC566A. The forwarding table size shown is with the use of JC566A. JC165A delivers forwarding of 500,000 IPv4 and 100,000 IPv6 addresses.	
Services	3-year, parts only, global next-day advance exchange (UW054E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UW062E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HR530E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV943E) 3-year, 24x7 SW phone support, software updates (UV955E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR529E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR531E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UW063E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV931E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV944E) 4-year, 24x7 SW phone support, software updates (UV956E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UW064E)	

Technical Specifications

- 5-year, 4-hour onsite, 24x7 coverage for hardware (UV932E)
- 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV945E)
- 5-year, 24x7 SW phone support, software updates (UV957E)
- 3 Yr 6 hr Call-to-Repair Onsite (UW055E)
- 4 Yr 6 hr Call-to-Repair Onsite (UW056E)
- 5 Yr 6 hr Call-to-Repair Onsite (UW057E)
- 1-year, 6 hour Call-To-Repair Onsite for hardware (HR533E)
- 1-year, 24x7 software phone support, software updates (HR532E)

Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP 6616 Router Chassis (JC496A)

I/O ports and slots	16 HIM slots, 8 SAP slots, or a combination	
Additional ports and slots	2 MPU (for management modules) slots	
Physical characteristics	Dimensions	17.17(w) x 18.74(d) x 34.88(h) in (43.61 x 47.6 x 88.6 cm) (20U height)
	Weight	116.84 lb (53 kg)
	Full configuration weight	220.46 lb (100 kg)
Mounting	EIA standard 19 in. rack	
Performance	Throughput	up to 252 million pps
	Routing table size	2000000 entries (IPv4), 500000 entries (IPv6)
	Forwarding table size	1000000 entries (IPv4), 300000 entries (IPv6)
	Backplane bandwidth	100 Gb/s
Environment	Operating temperature	32°F to 113°F (0°C to 45°C)
	Nonoperating/Storage temperature	14°F to 131°F (-10°C to 55°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
Electrical characteristics	Frequency	50/60 +/- 2 Hz
	Maximum heat dissipation	4265 BTU/hr (4499.58 kJ/hr)
	AC Voltage	100 - 240 VAC
	Maximum power rating	1950 W
Reliability	MTBF (years)	24.50
	MTTR (hours)	1.0
Safety	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 60950 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN	

Technical Specifications

60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2-60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products

Emissions

FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000:4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11

Management

IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB

Services

3-year, parts only, global next-day advance exchange (UW054E)
3-year, 4-hour onsite, 13x5 coverage for hardware (UW062E)
3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E)
3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E)
3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UV943E)
3-year, 24x7 SW phone support, software updates (UV955E)
1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR529E)
1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR531E)
4-year, 4-hour onsite, 13x5 coverage for hardware (UW063E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UV931E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV944E)
4-year, 24x7 SW phone support, software updates (UV956E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UW064E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UV932E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV945E)
5-year, 24x7 SW phone support, software updates (UV957E)
3 Yr 6 hr Call-to-Repair Onsite (UW055E)
4 Yr 6 hr Call-to-Repair Onsite (UW056E)
5 Yr 6 hr Call-to-Repair Onsite (UW057E)
1-year, 6 hour Call-To-Repair Onsite for hardware (HR533E)
1-year, 24x7 software phone support, software updates (HR532E)

Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Standards and protocols

(applies to all products in series)

BGP

RFC 1267 Border Gateway Protocol 3 (BGP-3)
RFC 1657 Definitions of Managed Objects for BGPv4
RFC 1771 BGPv4
RFC 1772 Application of the BGP

IPv6

RFC 1350 TFTP
RFC 1881 IPv6 Address Allocation Management
RFC 1886 DNS Extension for IPv6
RFC 1887 IPv6 Unicast Address Allocation

Technical Specifications

- RFC 1773 Experience with the BGP-4 Protocol
- RFC 1774 BGP-4 Protocol Analysis
- RFC 1997 BGP Communities Attribute
- RFC 1998 PPP Gandalf FZA Compression Protocol
- RFC 2385 BGP Session Protection via TCP MD5
- RFC 2439 BGP Route Flap Damping
- RFC 2796 BGP Route Reflection
- RFC 2842 Capability Advertisement with BGP-4
- RFC 2858 BGP-4 Multi-Protocol Extensions
- RFC 2918 Route Refresh Capability
- RFC 4271 A Border Gateway Protocol 4 (BGP-4)
- RFC 4272 BGP Security Vulnerabilities Analysis
- RFC 4274 BGP-4 Protocol Analysis
- RFC 4275 BGP-4 MIB Implementation Survey
- RFC 4276 BGP-4 Implementation Report
- RFC 4277 Experience with the BGP-4 Protocol
- RFC 4360 BGP Extended Communities Attribute
- RFC 4451 BGP MULTI_EXIT_DISC (MED) Considerations
- RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)
- RFC 4486 Subcodes for BGP Cease Notification Message
- RFC 4724 Graceful Restart Mechanism for BGP
- RFC 4760 Multiprotocol Extensions for BGP-4
- RFC 4893 BGP Support for Four-octet AS Number Space
- RFC 5065 Autonomous System Confederations for BGP
- RFC 5291 Outbound Route Filtering Capability for BGP-4
- RFC 5292 Address-Prefix-Based Outbound Route Filter for BGP-4
- RFC 5398 Autonomous System (AS) Number Reservation for Documentation Use
- RFC 5883 BFD for Multihop Paths
- Denial of service protection**
- CPU DoS Protection
- Rate Limiting by ACLs
- Device management**
- RFC 1155 Structure and Mgmt Information (SMIv1)
- RFC 1157 SNMPv1/v2c
- RFC 1305 NTPv3
- RFC 1901 (Community based SNMPv2)
- RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II
- RFC 1902 (SNMPv2)
- RFC 1908 (SNMP v1/2 Coexistence)
- RFC 1945 Hypertext Transfer Protocol -- HTTP/1.0
- RFC 2068 Hypertext Transfer Protocol -- HTTP/1.1
- Architecture
- RFC 1981 IPv6 Path MTU Discovery
- RFC 2080 RIPng for IPv6
- RFC 2292 Advanced Sockets API for IPv6
- RFC 2373 IPv6 Addressing Architecture
- RFC 2375 IPv6 Multicast Address Assignments
- RFC 2460 IPv6 Specification
- RFC 2461 IPv6 Neighbor Discovery
- RFC 2462 IPv6 Stateless Address Auto-configuration
- RFC 2463 ICMPv6
- RFC 2464 Transmission of IPv6 over Ethernet Networks
- RFC 2472 IP Version 6 over PPP
- RFC 2473 Generic Packet Tunneling in IPv6
- RFC 2475 IPv6 DiffServ Architecture
- RFC 2529 Transmission of IPv6 Packets over IPv4
- RFC 2545 Use of MP-BGP-4 for IPv6
- RFC 2553 Basic Socket Interface Extensions for IPv6
- RFC 2710 Multicast Listener Discovery (MLD) for IPv6
- RFC 2711 IPv6 Router Alert Option
- RFC 2740 OSPFv3 for IPv6
- RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
- RFC 2894 Router Renumbering for IPv6
- RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)
- RFC 2925 Remote Operations MIB (Ping only)
- RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
- RFC 3162 RADIUS and IPv6
- RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses
- RFC 3307 IPv6 Multicast Address Allocation
- RFC 3315 DHCPv6 (client and relay)
- RFC 3315 DHCPv6 (client only)
- RFC 3363 DNS support
- RFC 3484 Default Address Selection for IPv6
- RFC 3493 Basic Socket Interface Extensions for IPv6
- RFC 3513 IPv6 Addressing Architecture
- RFC 3542 Advanced Sockets API for IPv6
- RFC 3587 IPv6 Global Unicast Address Format
- RFC 3596 DNS Extension for IPv6
- RFC 3646 DNS Configuration options for Dynamic Host Configuration Protocol for IPv6
- RFC 3736 Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6
- RFC 3810 MLDv2 (host joins only)
- RFC 3810 MLDv2 for IPv6
- RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6

Technical Specifications

RFC 2452 MIB for TCP6
RFC 2454 MIB for UDP6
RFC 2573 (SNMPv3 Applications)
RFC 2576 (Coexistence between SNMP V1, V2, V3)
RFC 2578-2580 SMIv2
RFC 2579 (SMIv2 Text Conventions)
RFC 2580 (SMIv2 Conformance)
RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
RFC 2819 RMON
RFC 3410 (Management Framework)
RFC 3416 (SNMP Protocol Operations v2)
RFC 3417 (SNMP Transport Mappings)
Multiple Configuration Files
Multiple Software Images
SNMP v3 and RMON RFC support
SSHv1/SSHv2 Secure Shell
TACACS/TACACS+

General protocols

IEEE 802.1ad Q-in-Q
IEEE 802.1ad Q-in-Q
IEEE 802.1ag Service Layer OAM
IEEE 802.1ah Provider Backbone Bridges
IEEE 802.1AX-2008 Link Aggregation
IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q (GVRP)
IEEE 802.1Q VLANs
IEEE 802.1s (MSTP)
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1v VLAN classification by Protocol and Port
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3 Type 10BASE-T
IEEE 802.3ab 1000BASE-T
IEEE 802.3ac (VLAN Tagging Extension)
IEEE 802.3ad Link Aggregation (LAG)
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3ag Ethernet OAM
IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber - EFMF
IEEE 802.3i 10BASE-T
IEEE 802.3u 100BASE-X
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP

RFC 3956 Embedding the Rendezvous Point (RP) Address in an IPv6 Multicast Address
RFC 4001 Textual Conventions for Internet Network Addresses
RFC 4007 IPv6 Scoped Address Architecture
RFC 4022 MIB for TCP
RFC 4113 MIB for UDP
RFC 4251 SSHv6 Architecture
RFC 4252 SSHv6 Authentication
RFC 4252 SSHv6 Transport Layer
RFC 4253 SSHv6 Transport Layer
RFC 4254 SSHv6 Connection
RFC 4291 IP Version 6 Addressing Architecture
RFC 4293 MIB for IP
RFC 4419 Key Exchange for SSH
RFC 4443 ICMPv6
RFC 4541 IGMP & MLD Snooping Switch
RFC 4552 Authentication/Confidentiality for OSPFv3
RFC 4798 Connecting IPv6 Islands over IPv4 MPLS Using IPv6 Provider Edge Routers (6PE)
RFC 4861 IPv6 Neighbor Discovery
RFC 4862 IPv6 Stateless Address Auto-configuration
RFC 4940 IANA Considerations for OSPF
RFC 5072 IP Version 6 over PPP
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
RFC 5340 OSPF for IPv6
RFC 5340 OSPFv3 for IPv6
RFC 5722 Handling of Overlapping IPv6 Fragments
RFC 5881 BFD for IPv4 and IPv6 (Single Hop)

MIBs

IEEE 8021-PAE-MIB
IEEE 8023-LAG-MIB
RFC 1156 (TCP/IP MIB)
RFC 1212 Concise MIB Definitions
RFC 1213 MIB II
RFC 1229 Interface MIB Extensions
RFC 1286 Bridge MIB
RFC 1493 Bridge MIB
RFC 1573 SNMP MIB II
RFC 1643 Ethernet MIB
RFC 1650 Ethernet-Like MIB
RFC 1657 BGP-4 MIB
RFC 1724 RIPv2 MIB
RFC 1757 Remote Network Monitoring MIB
RFC 1850 OSPFv2 MIB
RFC 1907 SNMPv2 MIB
RFC 2011 SNMPv2 MIB for IP
RFC 2012 SNMPv2 MIB for TCP
RFC 2013 SNMPv2 MIB for UDP

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RFC 792 ICMP	RFC 2021 RMONv2 MIB
RFC 793 TCP	RFC 2096 IP Forwarding Table MIB
RFC 826 ARP	RFC 2233 Interface MIB
RFC 854 TELNET	RFC 2233 Interfaces MIB
RFC 855 Telnet Option Specification	RFC 2273 SNMP-NOTIFICATION-MIB
RFC 856 TELNET	RFC 2452 IPV6-TCP-MIB
RFC 857 Telnet Echo Option	RFC 2454 IPV6-UDP-MIB
RFC 858 Telnet Suppress Go Ahead Option	RFC 2465 IPv6 MIB
RFC 894 IP over Ethernet	RFC 2466 ICMPv6 MIB
RFC 896 Congestion Control in IP/TCP Internetworks	RFC 2571 SNMP Framework MIB
RFC 906 TFTP Bootstrap	RFC 2572 SNMP-MPD MIB
RFC 925 Multi-LAN Address Resolution	RFC 2574 SNMP USM MIB
RFC 950 Internet Standard Subnetting Procedure	RFC 2618 RADIUS Client MIB
RFC 951 BOOTP	RFC 2620 RADIUS Accounting MIB
RFC 959 File Transfer Protocol (FTP)	RFC 2665 Ethernet-Like-MIB
RFC 1006 ISO transport services on top of the TCP: Version 3	RFC 2668 802.3 MAU MIB
RFC 1027 Proxy ARP	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 1034 Domain Concepts and Facilities	RFC 2688 MAU-MIB
RFC 1035 Domain Implementation and Specification	RFC 2737 Entity MIB (Version 2)
RFC 1042 IP Datagrams	RFC 2787 VRRP MIB
RFC 1058 RIPv1	RFC 2819 RMON MIB
RFC 1071 Computing the Internet Checksum	RFC 2863 The Interfaces Group MIB
RFC 1091 Telnet Terminal-Type Option	RFC 2925 Ping MIB
RFC 1093 NSFNET routing architecture	RFC 2932IP (Multicast Routing MIB)
RFC 1122 Host Requirements	RFC 2933 IGMP MIB
RFC 1141 Incremental updating of the Internet checksum	RFC 3273 HC-RMON MIB
RFC 1142 OSI IS-IS Intra-domain Routing Protocol	RFC 3414 SNMP-User based-SM MIB
RFC 1144 Compressing TCP/IP headers for low- speed serial links	RFC 3415 SNMP-View based-ACM MIB
RFC 1171 Point-to-Point Protocol for the transmission of multi-protocol datagrams over Point-to-Point links	RFC 3418 MIB for SNMPv3
RFC 1191 Path MTU discovery	RFC 3621 Power Ethernet MIB
RFC 1195 OSI ISIS for IP and Dual Environments	RFC 3813 MPLS LSR MIB
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets	RFC 3814 MPLS FTN MIB
RFC 1253 (OSPF v2)	RFC 3815 MPLS LDP MIB
RFC 1256 ICMP Router Discovery Protocol (IRDP)	RFC 3826 AES for SNMP's USM MIB
RFC 1293 Inverse Address Resolution Protocol	RFC 4113 UDP MIB
RFC 1305 NTPv3	RFC 4133 Entity MIB (Version 3)
RFC 1315 Management Information Base for Frame Relay DTEs	RFC 4221 MPLS FTN MIB
RFC 1321 The MD5 Message-Digest Algorithm	LLDP-EXT-DOT1-MIB
RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)	LLDP-EXT-DOT3-MIB
RFC 1333 PPP Link Quality Monitoring	LLDP-MIB
RFC 1334 PPP Authentication Protocols (PAP)	Network management
RFC 1334 PPP Authentication Protocols (PAP)	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1349 Type of Service	IEEE 802.1D (STP)
	RFC 1098 A Simple Network Management Protocol (SNMP)
	RFC 1155 Structure of Management Information
	RFC 1157 SNMPv1
	RFC 1215 SNMP Generic traps
	RFC 1382 SNMP MIB Extension for the X.25 Packet Layer

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RFC 1350 TFTP Protocol (revision 2)	RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)	RFC 1901 SNMPv2 Introduction
RFC 1381 SNMP MIB Extension for X.25 LAPB	RFC 1902 SNMPv2 Structure
RFC 1389 RIPv2 MIB Extension	RFC 1903 SNMPv2 Textual Conventions
RFC 1471 The Definitions of Managed Objects for the Link Control Protocol of the Point-to-Point Protocol	RFC 1904 SNMPv2 Conformance
RFC 1472 The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol	RFC 1905 SNMPv2 Protocol Operations
RFC 1473 The Definitions of Managed Objects for the IP Network Control Protocol of the Point-to-Point Protocol	RFC 1906 SNMPv2 Transport Mappings
RFC 1490 Multiprotocol Interconnect over Frame Relay	RFC 1918 Private Internet Address Allocation
RFC 1519 CIDR	RFC 2272 SNMPv3 Management Protocol
RFC 1531 Dynamic Host Configuration Protocol	RFC 2273 SNMPv3 Applications
RFC 1533 DHCP Options and BOOTP Vendor Extensions	RFC 2274 USM for SNMPv3
RFC 1534 DHCP/BOOTP Interoperation	RFC 2275 VACM for SNMPv3
RFC 1541 DHCP	RFC 2570 SNMPv3 Overview
RFC 1542 BOOTP Extensions	RFC 2571 SNMP Management Frameworks
RFC 1542 Clarifications and Extensions for the Bootstrap Protocol	RFC 2572 SNMPv3 Message Processing
RFC 1552 The PPP Internetworking Packet Exchange Control Protocol (IPXCP)	RFC 2573 SNMPv3 Applications
RFC 1577 Classical IP and ARP over ATM	RFC 2574 SNMPv3 User-based Security Model (USM)
RFC 1613 Cisco Systems X.25 over TCP (XOT)	RFC 2575 SNMPv3 View-based Access Control Model (VACM)
RFC 1624 Incremental Internet Checksum	RFC 2575 VACM for SNMP
RFC 1631 NAT	RFC 2576 Coexistence between SNMP versions
RFC 1638 PPP Bridging Control Protocol (BCP)	RFC 2578 SMIv2
RFC 1661 The Point-to-Point Protocol (PPP)	RFC 2581 TCP6
RFC 1662 PPP in HDLC-like Framing	RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 1695 Definitions of Managed Objects for ATM Management Version 8.0 using SMIv2	RFC 3164 BSD syslog Protocol
RFC 1700 Assigned Numbers	RFC 3176 sFlow
RFC 1701 Generic Routing Encapsulation	RFC 3411 SNMP Management Frameworks
RFC 1702 Generic Routing Encapsulation over IPv4 networks	RFC 3412 SNMPv3 Message Processing
RFC 1721 RIP-2 Analysis	RFC 3413 Simple Network Management Protocol (SNMP) Applications
RFC 1722 RIP-2 Applicability	RFC 3414 SNMPv3 User-based Security Model (USM)
RFC 1723 RIP v2	RFC 3415 SNMPv3 View-based Access Control Model (VACM)
RFC 1812 IPv4 Routing	RFC 3584 Coexistence between Version 1 and Version 2 of the Internet-standard Network
RFC 1829 The ESP DES-CBC Transform	RFC 3593 Textual Conventions for MIB Modules Using Performance History Based on 15 Minute
RFC 1853 IP in IP Tunneling	RFC 3636 Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units (MAUs)
RFC 1877 PPP Internet Protocol Control Protocol Extensions for Name Server Addresses	RFC 4292 IP Forwarding Table MIB
RFC 1944 Benchmarking Methodology for Network Interconnect Devices	RFC 4502 Remote Network Monitoring Management Information Base Version 2
RFC 1945 Hypertext Transfer Protocol -- HTTP/1.0	RFC 4878 Definitions and Managed Objects for Operations, Administration, and Maintenance (OAM) Functions on
RFC 1973 PPP in Frame Relay	ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
RFC 1974 PPP Stac LZS Compression Protocol	SNMPv1/v2
	SNMPv1/v2c

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RFC 1981 Path MTU Discovery for IP version 6	SNMPv1/v2c (read only)
RFC 1990 The PPP Multilink Protocol (MP)	SNMPv1/v2c/v3
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)	OSPF
RFC 2003 IP Encapsulation within IP	RFC 1245 OSPF protocol analysis
RFC 2082 RIP-2 MD5 Authentication	RFC 1246 Experience with OSPF
RFC 2091 Trigger RIP	RFC 1253 OSPFv2 MIB
RFC 2104 HMAC: Keyed-Hashing for Message Authentication	RFC 1583 OSPFv2
RFC 2131 DHCP	RFC 1587 OSPF NSSA
RFC 2132 DHCP Options and BOOTP Vendor Extensions	RFC 1745 OSPF Interactions
RFC 2138 Remote Authentication Dial In User Service (RADIUS)	RFC 1765 OSPF Database Overflow
RFC 2205 Resource ReSerVation Protocol (RSVP) - Version 1 Functional Specification	RFC 1850 OSPFv2 Management Information Base (MIB), traps
RFC 2209 Resource ReSerVation Protocol (RSVP) -- Version 1 Message Processing Rules	RFC 2178 OSPFv2
RFC 2225 Classical IP and ARP over ATM	RFC 2328 OSPFv2
RFC 2236 IGMP Snooping	RFC 2328 OSPFv2
RFC 2246 The TLS Protocol Version 1.0	RFC 2328 OSPFv2 (Premium Edge License)
RFC 2251 Lightweight Directory Access Protocol (v3)	RFC 2370 OSPF Opaque LSA Option
RFC 2252 Lightweight Directory Access Protocol (v3): Attribute Syntax Definitions	RFC 3101 OSPF NSSA
RFC 2280 Routing Policy Specification Language (RPSL)	RFC 3623 Graceful OSPF Restart
RFC 2283 MBGP	RFC 3630 Traffic Engineering Extensions to OSPF Version 2
RFC 2284 EAP over LAN	RFC 4061 Benchmarking Basic OSPF Single Router Control Plane Convergence
RFC 2338 VRRP	RFC 4062 OSPF Benchmarking Terminology and Concepts
RFC 2338 VRRP (Premium Edge License)	RFC 4063 Considerations When Using Basic OSPF Convergence Benchmarks
RFC 2364 PPP Over AAL5	RFC 4222 Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance
RFC 2374 An Aggregatable Global Unicast Address Format	RFC 4577 OSPF as the Provider/Customer Edge Protocol for BGP/MPLS IP Virtual Private Networks (VPNs)
RFC 2390 Inverse Address Resolution Protocol	RFC 4811 OSPF Out-of-Band LSDB Resynchronization
RFC 2427 Multiprotocol Interconnect over Frame Relay	RFC 4812 OSPF Restart Signaling
RFC 2451 The ESP CBC-Mode Cipher Algorithms	RFC 4813 OSPF Link-Local Signaling
RFC 2453 RIPv2	RFC 5187 OSPFv3 Graceful Restart
RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols	RFC 5340 OSPF for IPv6
RFC 2511 Internet X.509 Certificate Request Message Format	RFC 5340 OSPFv3 for IPv6
RFC 2514 Definitions of Textual Conventions and OBJECT-IDENTITIES for ATM Management	RFC 5613 OSPF Link-Local Signaling
RFC 2515 Definitions of Managed Objects for ATM Management	QoS/CoS
RFC 2516 A Method for Transmitting PPP Over Ethernet (PPPoE)	IEEE 802.1P (CoS)
RFC 2519 A Framework for Inter-Domain Route Aggregation	RFC 2309 Recommendations on queue management and congestion avoidance in the Internet
RFC 2529 Transmission of IPv6 over IPv4 Domains	RFC 2474 DiffServ Precedence, including 8 queues/port
	RFC 2474 DiffServ precedence, with 4 queues per port

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without Explicit Tunnels	RFC 2474 DSCP DiffServ
RFC 2544 Benchmarking Methodology for Network Interconnect Devices	RFC 2474, with 4 queues per port
RFC 2581 TCP Congestion Control	RFC 2475 DiffServ Architecture
RFC 2615 PPP over SONET/SDH (Synchronous Optical Network/Synchronous Digital Hierarchy)	RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2616 HTTP Compatibility v1.1	RFC 2597 DiffServ Assured Forwarding (AF)- partial support
RFC 2617 HTTP Authentication: Basic and Digest Access Authentication	RFC 2598 DiffServ Expedited Forwarding (EF)
RFC 2622 Routing Policy Specification Language (RPSL)	RFC 2697 A Single Rate Three Color Marker
RFC 2644 Directed Broadcast Control	RFC 2698 A Two Rate Three Color Marker
RFC 2661 L2TP	RFC 2751 Signaled Preemption Priority Policy Element
RFC 2663 NAT Terminology and Considerations	RFC 3247 Supplemental Information for the New Definition of the EF PHB (Expedited Forwarding Per-Hop Behavior)
RFC 2684 Multiprotocol Encapsulation over ATM Adaptation Layer 5	RFC 3260 New Terminology and Clarifications for DiffServ
RFC 2694 DNS extensions to Network Address Translators (DNS_ALG)	RFC 3662 A Lower Effort Per-Domain Behavior (PDB) for Differentiated Services
RFC 2702 Requirements for Traffic Engineering Over MPLS	RFC 4594 Configuration Guidelines for DiffServ Service Classes
RFC 2716 PPP EAP TLS Authentication Protocol	Ingress Rate Limiting
RFC 2747 RSVP Cryptographic Authentication	
RFC 2763 Dynamic Name-to-System ID mapping support	Security
RFC 2765 Stateless IP/ICMP Translation Algorithm (SIIT)	IEEE 802.1X Port Based Network Access Control
RFC 2766 Network Address Translation - Protocol Translation (NAT-PT)	RFC 1321 The MD5 Message-Digest Algorithm
RFC 2767 Dual Stacks IPv4 & IPv6	RFC 1492 TACACS+
RFC 2782 A DNS RR (DNS Resource Record) for specifying the location of services (DNS SRV) Domain Name System Server	RFC 2082 RIP-2 MD5 Authentication
RFC 2784 Generic Routing Encapsulation (GRE)	RFC 2104 Keyed-Hashing for Message Authentication
RFC 2787 Definitions of Managed Objects for VRRP	RFC 2138 RADIUS Authentication
RFC 2833 RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals	RFC 2139 RADIUS Accounting
RFC 2856 Textual Conventions for Additional High Capacity Data Types	RFC 2209 RSVP-Message Processing
RFC 2865 Remote Authentication Dial In User Service (RADIUS)	RFC 2246 Transport Layer Security (TLS)
RFC 2866 RADIUS Accounting	RFC 2459 Internet X.509 Public Key Infrastructure Certificate and CRL Profile
RFC 2868 RADIUS Attributes for Tunnel Protocol Support	RFC 2548 Microsoft Vendor-specific RADIUS Attributes
RFC 2869 RADIUS Extensions	RFC 2716 PPP EAP TLS Authentication Protocol
RFC 2915 The Naming Authority Pointer (NAPTR) DNS Resource Record	RFC 2818 HTTP Over TLS
RFC 2916 E.164 number and DNS P. Faltstrom	RFC 2865 RADIUS (client only)
RFC 2961 RSVP Refresh Overhead Reduction Extensions	RFC 2865 RADIUS Authentication
RFC 2965 HTTP State Management Mechanism	RFC 2866 RADIUS Accounting
RFC 2966 Domain-wide Prefix Distribution with Two-	RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
	RFC 2868 RADIUS Attributes for Tunnel Protocol Support
	RFC 2869 RADIUS Extensions
	RFC 3567 Intermediate System (IS) to IS Cryptographic Authentication
	RFC 3576 Dynamic Authorization Extensions to

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Level IS-IS	RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
RFC 2973 IS-IS Mesh Groups	Authentication Protocol (EAP)
RFC 2993 Architectural Implications of NAT	RFC 3580 IEEE 802.1X RADIUS
RFC 3022 Traditional IP Network Address Translator (Traditional NAT)	RFC 4250 The Secure Shell (SSH) Protocol Assigned Numbers
RFC 3027 Protocol Complications with the IP Network Address Translator	RFC 5214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)
RFC 3031 Multiprotocol Label Switching Architecture	Access Control Lists (ACLs)
RFC 3032 MPLS Label Stack Encoding	Guest VLAN for 802.1x
RFC 3036 LDP Specification	MAC Authentication
RFC 3046 DHCP Relay Agent Information Option	Port Security
RFC 3063 MPLS Loop Prevention Mechanism	Secure Sockets Layer (SSL)
RFC 3065 Support AS confederation	SSHv1 Secure Shell
RFC 3137 OSPF Stub Router Advertisement	SSHv1.5 Secure Shell
RFC 3209 RSVP-TE Extensions to RSVP for LSP Tunnels	SSHv1/SSHv2 Secure Shell
RFC 3210 Applicability Statement for Extensions to RSVP for LSP-Tunnels	SSHv2 Secure Shell
RFC 3212 Constraint-Based LSP setup using LDP (CR-LDP)	VPN
RFC 3214 LSP Modification Using CR-LDP	RFC 2403 - HMAC-MD5-96
RFC 3215 LDP State Machine	RFC 2404 - HMAC-SHA1-96
RFC 3246 Expedited Forwarding PHB	RFC 2405 - DES-CBC Cipher algorithm
RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)	RFC 2407 - Domain of interpretation
RFC 3272 Overview and Principles of Internet Traffic Engineering	RFC 2547 BGP/MPLS VPNs
RFC 3277 IS-IS Transient Blackhole Avoidance	RFC 2764 A Framework for IP Based Virtual Private Networks
RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile	RFC 2796 BGP Route Reflection - An Alternative to Full Mesh IBGP
RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile	RFC 2842 Capabilities Advertisement with BGP-4
RFC 3359 Reserved Type, Length and Value (TLV) Codepoints in Intermediate System to Intermediate System	RFC 2858 Multiprotocol Extensions for BGP-4
RFC 3392 Support BGP capabilities advertisement	RFC 2917 A Core MPLS IP VPN Architecture
RFC 3410 Applicability Statements for SNMP	RFC 2918 Route Refresh Capability for BGP-4
RFC 3416 Protocol Operations for SNMP	RFC 3107 Carrying Label Information in BGP-4
RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP)	RFC 4301 - Security Architecture for the Internet Protocol
RFC 3442 The Classless Static Route Option for Dynamic Host Configuration Protocol (DHCP) version 4	RFC 4302 - IP Authentication Header (AH)
RFC 3479 Fault Tolerance for the Label Distribution Protocol (LDP)	RFC 4303 - IP Encapsulating Security Payload (ESP)
RFC 3487 Graceful Restart Mechanism for LDP	RFC 4305 - Cryptographic Algorithm Implementation Requirements for ESP and AH
RFC 3509 OSPF ABR Behavior	IKEv1
RFC 3526 More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)	RFC 2865 - Remote Authentication Dial In User Service (RADIUS)
	RFC 3748 - Extensible Authentication Protocol (EAP)
	RFC 4109 Algorithms for Internet Key Exchange version 1 (IKEv1)
	MPLS
	RFC 3037 LDP (Label Distribution Protocol) Applicability
	RFC 3270 Multi-Protocol Label Switching (MPLS)

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- RFC 3562 Key Management Considerations for the TCP MD5 Signature Option
- RFC 3564 Requirements for Support of Differentiated Services-aware MPLS Traffic Engineering
- RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication
- RFC 3590 Source Address Selection for the Multicast Listener Discovery (MLD) Protocol
- RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPSec
- RFC 3619 Ethernet Automatic Protection Switching (EAPS)
- RFC 3623 Graceful OSPF Restart
- RFC 3704 Unicast Reverse Path Forwarding (URPF)
- RFC 3706 A Traffic-Based Method of Detecting Dead Internet Key Exchange (IKE) Peers
- RFC 3768 VRRP
- RFC 3768 VRRP
- RFC 3768 VRRP (Premium Edge License)
- RFC 3784 ISIS TE support
- RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit
- RFC 3811 Definitions of Textual Conventions (TCs) for Multiprotocol Label Switching (MPLS) Management
- RFC 3812 Multiprotocol Label Switching (MPLS) Traffic Engineering (TE) Management Information Base (MIB)
- RFC 3847 Restart signaling for IS-IS
- RFC 3879 Deprecating Site Local Addresses
- RFC 3906 Calculating Interior Gateway Protocol (IGP) Routes Over Traffic Engineering Tunnels
- RFC 3917 Requirements for IP Flow Information Export (IPFIX)
- RFC 3954 Cisco Systems NetFlow Services Export Version 9
- RFC 4213 Basic IPv6 Transition Mechanisms
- RFC 4884 Extended ICMP to Support Multi-Part Messages
- RFC 5082 The Generalized TTL Security Mechanism (GTSM)
- RFC 5286 Basic Specification for IP Fast Reroute: Loop-Free Alternates
- RFC 5880 Bidirectional Forwarding Detection
- RFC 5882 Generic Application of BFD IP Ping
- IP multicast**
- RFC 1112 IGMP
- RFC 2236 IGMPv2
- RFC 3429 Assignment of the 'OAM Alert Label' for Multiprotocol Label Switching
- RFC 3443 Time To Live (TTL) Processing in Multi-Protocol Label Switching (MPLS) Networks
- RFC 3478 Graceful Restart Mechanism for Label Distribution Protocol
- RFC 3612 Applicability Statement for Restart Mechanisms for the Label Distribution
- RFC 3916 Requirements for Pseudo-Wire Emulation Edge-to-Edge (PWE3)
- RFC 3985 Pseudo Wire Emulation Edge-to-Edge (PWE3) Architecture
- RFC 4023 Encapsulating MPLS in IP or Generic Routing Encapsulation (GRE)
- RFC 4090 Fast Reroute Extensions to RSVP-TE for LSP Tunnels
- RFC 4105 Requirements for Inter-Area MPLS Traffic Engineering
- RFC 4124 Protocol Extensions for Support of Diffserv-aware MPLS Traffic Engineering
- RFC 4125 Maximum Allocation Bandwidth Constraints Model for Diffserv-aware MPLS Traffic
- RFC 4127 Russian Dolls Bandwidth Constraints Model for Diffserv-aware MPLS Traffic
- RFC 4182 Removing a Restriction on the use of MPLS Explicit NULL
- RFC 4216 MPLS Inter-Autonomous System (AS) Traffic Engineering (TE) Requirements
- RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)
- RFC 4365 Applicability Statement for BGP/MPLS IP Virtual Private Networks (VPNs)
- RFC 4381 Analyses of the Security of BGP/MPLS IP VPNs
- RFC 4385 Pseudowire Emulation Edge-to-Edge (PWE3) Control Word for Use over an MPLS PSN
- RFC 4446 IANA Allocations for Pseudowire Edge to Edge Emulation (PWE3)
- RFC 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks
- RFC 4576 Using a Link State Advertisement (LSA) Options Bit to Prevent Looping in BGP/MPLS
- RFC 4618 Encapsulation Methods for Transport of PPP/High-Level Data Link Control (HDLC) over MPLS Networks
- RFC 4619 Encapsulation Methods for Transport of Frame Relay over Multiprotocol Label
- RFC 4659 BGP-MPLS IP Virtual Private Network (VPN) Extension for IPv6 VPN
- RFC 4664 Framework for Layer 2 Virtual Private

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RFC 2283 Multiprotocol Extensions for BGP-4
RFC 2362 PIM Sparse Mode
RFC 2362 PIM Sparse Mode
RFC 2362 PIM Sparse Mode (Premium Edge License)
RFC 2365 Administratively Scoped IP Multicast
RFC 2934 Protocol Independent Multicast MIB for IPv4
RFC 3376 IGMPv3
RFC 3376 IGMPv3 (host joins only)
RFC 3446 Anycast Rendezvous Point (RP) mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)
RFC 3569 An Overview of Source-Specific Multicast (SSM)
RFC 3618 Multicast Source Discovery Protocol (MSDP)
RFC 3973 Draft 2 PIM Dense Mode
RFC 3973 Draft 2 PIM Dense Mode
RFC 3973 PIM Dense Mode
RFC 3973 PIM Dense Mode
RFC 3973 PIM Dense Mode (Premium Edge License)
RFC 4601 Draft 10 PIM Sparse Mode
RFC 4601 Draft 10 PIM Sparse Mode
RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast
RFC 4605 IGMP/MLD Proxying
RFC 4607 Source-Specific Multicast for IP
RFC 4608 Source-Specific Protocol Independent Multicast in 232/8 (PIM SSM)
RFC 4611 Multicast Source Discovery Protocol (MSDP) Deployment Scenarios
RFC 4950 ICMP Extensions for Multiprotocol Label Switching
RFC 5015 Bidirectional Protocol Independent Multicast (BIDIR-PIM)
RFC 5059 Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)
RFC 5060 Protocol Independent Multicast MIB
RFC 5240 Protocol Independent Multicast (PIM) Bootstrap Router MIB

RFC 4665 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks
RFC 4717 Encapsulation Methods for Transport of Asynchronous Transfer Mode (ATM) over MPLS
RFC 4761 Virtual Private LAN Service (VPLS) Using BGP for Auto-Discovery and Signaling
RFC 4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling
RFC 4764 Framework for Layer 2 Virtual Private Networks (L2VPNs)
RFC 4765 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks
RFC 4816 Pseudowire Emulation Edge-to-Edge (PWE3) Asynchronous Transfer Mode (ATM)
RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration in IPv6
RFC 5085 Pseudowire Virtual Circuit Connectivity Verification (VCCV): A Control Channel
RFC 5443 LDP IGP Synchronization
RFC 5601 Pseudowire (PW) Management Information Base (MIB)
RFC 5602 Pseudowire (PW) over MPLS PSN Management Information Base (MIB)

IPSec

RFC 1828 IP Authentication using Keyed MD5
RFC 2401 IP Security Architecture
RFC 2402 IP Authentication Header
RFC 2406 IP Encapsulating Security Payload
RFC 2407 - Domain of interpretation
RFC 2408 - Internet Security Association and Key Management Protocol (ISAKMP)
RFC 2409 - The Internet Key Exchange
RFC 2410 - The NULL Encryption Algorithm and its use with IPSec
RFC 2411 IP Security Document Roadmap
RFC 2412 - OAKLEY
RFC 2865 - Remote Authentication Dial In User Service (RADIUS)
RFC 4835 Cryptographic Algorithm Implementation Requirements for Encapsulating Security

PKI

RFC 5280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile

Accessories

HP 6600 Router Series accessories

Transceivers

HP X110 100M SFP LC LH40 Transceiver	JD090A
HP X110 100M SFP LC LH80 Transceiver	JD091A
HP X110 100M SFP LC FX Transceiver	JD102B
HP X110 100M SFP LC LX Transceiver	JD120B
HP X120 622M SFP LC LX 15km Transceiver	JF829A
HP X120 622M SFP LC LH 40km 1310 Transceiver	JF830A
HP X120 622M SFP LC LH 80km 1550 Transceiver	JF831A
HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HP X120 1G SFP LC BX 10-U Transceiver	JD098B
HP X120 1G SFP LC BX 10-D Transceiver	JD099B
HP X120 1G SFP LC LH100 Transceiver	JD103A
HP X120 1G SFP LC SX Transceiver	JD118B
HP X120 1G SFP LC LX Transceiver	JD119B
HP X125 1G SFP LC LH70 Transceiver	JD063B
HP X120 1G SFP RJ45 T Transceiver	JD089B
HP X160 2.5G SFP LC 2km Transceiver	JD084A
HP X160 2.5G SFP LC 15km Transceiver	JD085A
HP X160 2.5G SFP LC 40km Transceiver	JD086A
HP X160 2.5G SFP LC 80km Transceiver	JD087A
HP X135 10G XFP LC ER Transceiver	JD121A
HP X130 10G XFP LC LR Transceiver	JD108B
HP X130 10G XFP LC SR Transceiver	JD117B

Cables

HP X200 V.24 DTE 3m Serial Port Cable	JD519A
HP X200 V.24 DCE 3m Serial Port Cable	JD521A
HP X200 V.35 DTE 3m Serial Port Cable	JD523A
HP X200 V.35 DCE 3m Serial Port Cable	JD525A
HP X200 X.21 DTE 3m Serial Port Cable	JD527A
HP X200 X.21 DCE 3m Serial Port Cable	JD529A
HP X260 RS449 3m DTE Serial Port Cable	JF825A
HP X260 RS449 3m DCE Serial Port Cable	JF826A
HP X260 RS530 3m DTE Serial Port Cable	JF827A
HP X260 RS530 3m DCE Serial Port Cable	JF828A
HP X260 8E1 BNC 75 ohm 3m Router Cable	JD512A
HP X260 E1 RJ45 BNC 75-120 ohm Conversion Router Cable	JD511A

Router Modules

HP 6600 RSE-X1 Main Processing Unit	JC566A
HP 6600 RPE-X1 Main Processing Unit	JC165A
HP 6600 MCP-X1 Router Main Processing Unit	JG355A
HP 6600 MCP-X2 Router Main Processing Unit	JG356A
HP 6600 FIP-10 Flexible Interface Platform Router Module	JG357A
HP 6600 FIP-20 Flexible Interface Platform Router Module	JG358A

Accessories

HP 6600 FIP-110 Flexible Interface Platform Module	JC166B
HP 6600 FIP-210 Flexible Interface Platform Module	JC167B
HP 6600 8-port OC-3c/OC-12c POS / GbE SFP HIM Module	JG673A
HP 6600 1-port OC-3/STM-1 (E1/T1) CPOS SFP HIM Module	JC161A
HP 6600 2-port OC-3/STM-1 (E1/T1) CPOS SFP HIM Module	JC162A
HP 6600 2-port OC-3/STM-1 (E3/T3) CPOS SFP HIM Module	JC169A
HP 6600 1-port OC-3/STM-1 (E3/T3) CPOS SFP HIM Module	JC170A
HP 6600 4-port OC-3c/STM-1c or 2-port OC-12c/STM-4c POS SFP HIM Module	JC172A
HP 6600 2-port OC-3c/STM-1c or 1-port OC-12c/STM-4c POS SFP HIM Module	JC173A
HP 6600 1-port OC-48c/STM-16c POS/CPOS SFP HIM Module	JC494A
HP 6600 1-port OC-3c/STM-1c ATM SFP HIM Module	JC175A
HP 6600 2-port OC-3c/STM-1c ATM SFP HIM Module	JC495A
HP 6600 4-port GbE SFP HIM Module	JC171A
HP 6600 8-port GbE SFP HIM Module	JC174A
HP 6600 4-port Gig-T HIM Module	JC163A
HP 6600 8-port Gig-T HIM Module	JC164A
HP 6600 1-port 10-GbE XFP HIM Module	JC168A
HP MSR 2-port Enhanced Sync/Async Serial MIM Module	JD540A
HP MSR 4-port Enhanced Sync/Async Serial MIM Module	JD541A
HP MSR 8-port Enhanced Sync/Async Serial MIM Module	JD552A
HP MSR 8-port E1/CE1/PRI (75ohm) MIM Module	JD563A
HP MSR 8-port E1/Fractional E1 (75ohm) MIM Module	JF255A
HP MSR 8-port T1/CT1/PRI MIM Module	JC160A
HP MSR 1-port E3/CE3/FE3 MIM Module	JD630A
HP MSR 8-port T1/Fractional T1 MIM Module	JC159A
HP MSR 1-port FT3/CT3 MIM Module	JD628A
HP 6600 8-port 10/100Base-T HIM Module	JC575A
HP 6600 2-port OC-48c/STM-16c RPR SFP HIM Module	JC576A
HP 6600 48-port GbE SFP Service Aggregation Platform Module -	JG556A
HP 6600 48-port Gig-T Service Aggregation Platform Module	JC567A
HP 6600 24-port GbE SFP Service Aggregation Platform Module	JC568A
HP MSR 8-port E1 / CE1 / PRI (75ohm) HMIM Module	JG452A
HP MSR 4-port E1 / CE1 / PRI HMIM Module	JG451A
HP MSR 2-port E1 / CE1 / PRI HMIM Module	JG450A
HP MSR 1-port T3 / CT3 / FT3 HMIM Module	JG435A
HP MSR 1-port E3 / CE3 / FE3 HMIM Module	JG436A
Memory	
HP 6600 1 GB SDRAM Memory	JC179A
HP 6602 Router (JC176A)	
HP RPS 800 Redundant Power Supply	JD183A
HP X290 MSR30 1m RPS Cable	JD637A
HP 6604 Router Chassis (JC178B)	
HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A

Accessories

HP 7500 650W DC Power Supply	JD209A
HP 7500 650W AC Power Supply	JD217A
HP 6604 Dustproof Frame	JC572A
HP 6604 Spare Fan Assembly	JC569A
HP 6600 Router Software License	JC180A
HP 6600 MCP-X1 Router Main Processing Unit	JG355A
HP 6600 MCP-X2 Router Main Processing Unit	JG356A
HP 6600 RPE-X1 Main Processing Unit	JC165A
HP 6600 RSE-X1 Main Processing Unit	JC566A
HP 6600 24-port GbE SFP Service Aggregation Platform Module	JC568A
HP 6600 48-port Gig-T Service Aggregation Platform Module	JC567A
HP 6600 FIP-10 Flexible Interface Platform Router Module	JG357A
HP 6600 FIP-110 Flexible Interface Platform Module	JC166B
HP 6600 FIP-20 Flexible Interface Platform Router Module	JG358A
HP 6600 FIP-210 Flexible Interface Platform Module	JC167B
HP 6608 Router Chassis (JC177B)	
HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP 7500 650W DC Power Supply	JD209A
HP 7500 650W AC Power Supply	JD217A
HP 6608 Spare Fan Assembly	JC570A
HP 6608 Dustproof Frame	JC573A
HP 6600 Router Software License	JC180A
HP 6600 MCP-X1 Router Main Processing Unit	JG355A
HP 6600 MCP-X2 Router Main Processing Unit	JG356A
HP 6600 RPE-X1 Main Processing Unit	JC165A
HP 6600 RSE-X1 Main Processing Unit	JC566A
HP 6600 24-port GbE SFP Service Aggregation Platform Module	JC568A
HP 6600 48-port Gig-T Service Aggregation Platform Module	JC567A
HP 6600 FIP-10 Flexible Interface Platform Router Module	JG357A
HP 6600 FIP-110 Flexible Interface Platform Module	JC166B
HP 6600 FIP-20 Flexible Interface Platform Router Module	JG358A
HP 6600 FIP-210 Flexible Interface Platform Module	JC167B
HP 6616 Router Chassis (JC496A)	
HP X130 10G SFP+ LC SR Transceiver	JD092B
HP X130 10G SFP+ LC LR Transceiver	JD094B
HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
HP 6600 650W AC Power Supply	JC492A
HP 6600 650W DC Power Supply	JC493A
HP 6616 Spare Fan Assembly	JC571A
HP 6616 Dustproof Frame	JC574A
HP 6600 RPE-X1 Carrier Card	JC497A
HP 6600 Router Software License	JC180A
HP 6600 MCP-X1 Router Main Processing Unit	JG355A

Accessories

HP 6600 MCP-X2 Router Main Processing Unit	JG356A
HP 6600 RPE-X1 Main Processing Unit	JC165A
HP 6600 RSE-X1 Main Processing Unit	JC566A
HP 6600 24-port GbE SFP Service Aggregation Platform Module	JC568A
HP 6600 48-port Gig-T Service Aggregation Platform Module	JC567A
HP 6600 FIP-10 Flexible Interface Platform Router Module	JG357A
HP 6600 FIP-110 Flexible Interface Platform Module	JC166B
HP 6600 FIP-20 Flexible Interface Platform Router Module	JG358A
HP 6600 FIP-210 Flexible Interface Platform Module	JC167B

Accessory Product Details

NOTE: Details are not available for all accessories. The following specifications were available at the time of publication.

HP X125 1G SFP LC LH40 1310nm Transceiver (JD061A)	Ports Connectivity	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics) Connector type LC Wavelength 1310 nm
	Physical characteristics	Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight 0.04 lb. (0.02 kg)
A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.	Electrical characteristics	Power consumption typical 0.8 W Power consumption maximum 1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: <ul style="list-style-type: none"> 40km distance Fiber type Single Mode
Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)	Ports Connectivity	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics) Connector type LC Wavelength 1550 nm
	Physical characteristics	Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight 0.04 lb. (0.02 kg)
A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber.	Electrical characteristics	Power consumption typical 0.8 W Power consumption maximum 1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: <ul style="list-style-type: none"> 40km distance Fiber type Single Mode
Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP X120 1G SFP LC BX 10-U Transceiver (JD098B)

A small form-factor pluggable (SFP) Gigabit LX-BX10-U transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.

Ports	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only
Connectivity	Connector type LC
Physical characteristics	Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight 0.04 lb. (0.02 kg)
Electrical characteristics	Power consumption typical 0.8 W Power consumption maximum 1.0 W
Cabling	Maximum distance: • 10km Fiber type Single Mode
Notes	TX 1310nm RX 1490nm
Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP X120 1G SFP LC BX 10-D Transceiver (JD099B)

A small form-factor pluggable (SFP) Gigabit LX-BX10-D transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.

Ports	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only
Connectivity	Connector type LC
Physical characteristics	Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight 0.04 lb. (0.02 kg)
Electrical characteristics	Power consumption typical 0.8 W Power consumption maximum 1.0 W
Cabling	Maximum distance: • Up to 10km Fiber type Single Mode
Notes	TX 1490nm RX 1310nm
Services	Refer to the HP website at: www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP X120 1G SFP LC LH100 Transceiver (JD103A)	Ports	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	Connector type	LC
A small form factor pluggable (SFP) Gigabit LH100 transceiver that provides a full-duplex Gigabit solution up to 100km on a single mode fiber.	Electrical characteristics	Wavelength	1550 nm
		Power consumption typical	0.8 W
Cabling		Power consumption maximum	1.0 W
		Cable type:	Single-mode fiber optic, complying with ITU-T G.652;
Services		Maximum distance:	
		• Up to 100km	
		Fiber type	Single Mode
		Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

HP X120 1G SFP LC SX Transceiver (JD118B)	Ports	1 LC 1000BASE-SX port	
	Connectivity	Connector type	LC
A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550m on a Multimode fiber.	Physical characteristics	Wavelength	850 nm
		Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
Electrical characteristics		Full configuration weight	0.04 lb. (0.02 kg)
		Power consumption typical	0.8 W
Cabling		Power consumption maximum	1.0 W
		Maximum distance:	
		• FDDI Grade distance = 220m	
		• OM1 = 275m	
		• OM2 = 500m	
		• OM3 = Not Specified by standard	
		Cable length	up to 550m
		Fiber type	Multi Mode
Services		Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP X120 1G SFP LC LX Transceiver (JD119B) A small form-factor pluggable (SFP) Gigabit LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	Ports 1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)
	Connectivity Connector type LC Wavelength 1300 nm
Physical characteristics Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight 0.04 lb. (0.02 kg)	Electrical characteristics Power consumption typical 0.8 W Power consumption maximum 1.0 W
	Cabling Cable type: Either single mode or multimode; Maximum distance: <ul style="list-style-type: none"> • 550m for Multimode • 10km for Singlemode Fiber type Both
Services Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

HP X125 1G SFP LC LH70 Transceiver (JD063B) A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.	Ports 1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)
	Connectivity Connector type LC Wavelength 1550 nm
Physical characteristics Dimensions 2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm) Full configuration weight 0.04 lb. (0.02 kg)	Electrical characteristics Power consumption typical 0.8 W Power consumption maximum 1.0 W
	Cabling Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: <ul style="list-style-type: none"> • 70km Fiber type Single Mode
Services Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

Accessory Product Details

HP X120 1G SFP RJ45 T Transceiver (JD089B)

A small form factor pluggable (SFP) Gigabit 1000Base-T transceiver that provides a full duplex Gigabit solution up to 100m on a Cat-5+ cable.

Ports	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)
Connectivity	Connector type RJ-45
Physical characteristics	Dimensions 2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)
	Full configuration weight 0.07 lb. (0.03 kg)
Electrical characteristics	Power consumption typical 0.8 W
	Power consumption maximum 1.0 W
Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ω differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T; Maximum distance: • 100m
Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP 7500 650W DC Power Supply (JD209A)

Physical characteristics	Dimensions 13.78(d) x 5.51(w) x 1.57(h) in. (35 x 14 x 4 cm) (1U height)
	Weight 4.96 lb. (2.25 kg)
Electrical characteristics	Voltage 0~-48/-60V
	Current 0/25 A
	Idle power 97.5 W
	Maximum power rating 650 W
	PoE power 0 W
Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Accessory Product Details

HP 7500 650W AC Power Supply (JD217A)	Physical characteristics	Dimensions	13.78(d) x 5.51(w) x 1.57(h) in. (35 x 14 x 4 cm) (1U height)
		Weight	5.34 lb. (2.42 kg)
	Electrical characteristics	Voltage	100-120/200-240 VAC
		Current	0/10 A
		Idle power	97.5 W
		Maximum power rating	650 W
		PoE power	0 W
		Frequency	50/60 Hz
		Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 650W AC Power Supply uses a 10-A AC power cable
	Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	

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